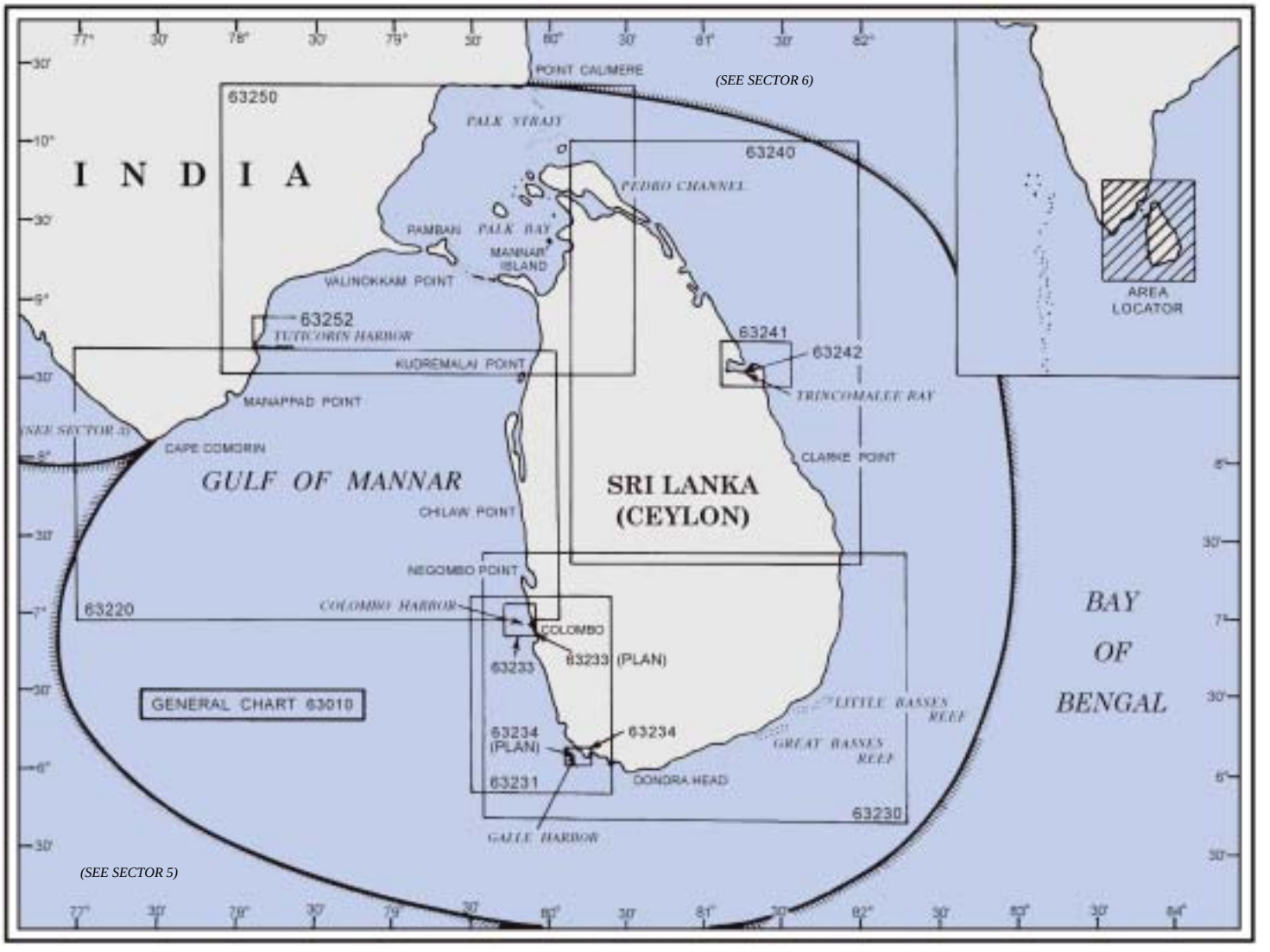
Click on "See Sector" to be hotlinked to that Sector.




**Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.**

SECTOR **4** — CHART INFORMATION

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# SECTOR 4

## SRI LANKA (INCLUDING THE GULF OF MANNAR, PALK STRAIT, AND PALK BAY)

**Plan.—**This sector describes the Gulf of Mannar, Sri Lanka (Ceylon), and then Palk Strait and Bay. The arrangement of the sector is NE from Cape Comorin along the SE coast of India, from there S, E, and N along the coasts of Sri Lanka, followed by the description of Palk Strait and Palk Bay.

The sector includes the roadstead port of Tuticorin on the SE coast of India, and the important ports of Colombo, Galle, and Trincomalee of Sri Lanka.

## General Remarks

**4.1** The Gulf of Mannar lies between the SE coast of the Indian Peninsula and the W coast of Sri Lanka. Its S boundary lies between Cape Comorin, the S extremity of India, and Point de Galle, the SW point of Sri Lanka. The gulf is bounded N by Adam's Bridge, a chain of islets and rocks extending from the E end of **Pamban Island** (9˚11'N., 79˚25'E.) to Mannar Island, about 16 miles ESE.

The NW coast of the Gulf of Mannar is, with the exception of the mountains extending N from Cape Comorin, generally low and sandy, with the mountains lying about 55 miles inland. This level plain has an average elevation of about 50m, and gradually rises toward Cape Comorin.

The W coast of Sri Lanka is low and planted with coconut trees. Inland, the foothills of the mountain district abreast Colombo begin about 20 miles from the coast.

**Adam's Peak** (6˚48'N., 80˚30'E.), 2,243m high and the highest land visible off the W coast of Sri Lanka, is an excellent mark during the Northeast Monsoon, but is seldom visible during the remainder of the year.

**Winds—Weather.—**The coast covered by this sector is, like the rest of Sri Lanka, predominantly in a region of the monsoon. Of the four phases to be considered the Southwest Monsoon is the most important, followed by the Northeast Monsoon. Between these two monsoon are the spring and autumn transitions with their light and unsteady winds.

In the Gulf of Mannar, the Northeast Monsoon is steadiest in January and has much weakened by March. The wind becomes light and variable toward the end of April, and squally showers are common.

The Southwest Monsoon is usually established sometime in May and gains strength in June. From July to the end of September fresh SW winds prevail, with mainly fair weather at the end of the gulf. The wind usually moderates near the head of the gulf at night and in the early morning and freshens again in the afternoon as a result of land and sea breeze effect. In October the wind is more variable and there are heavy squalls with rain in the latter part of the month.

In November, the wind is normally between WNW and NE and the weather is very unsettled with frequent heavy squalls and rain; the Northeast Monsoon usually becomes established by about the end of the month.

**4.2** **Hiniduma Kanda** (Haycock) (6˚20'N., 80˚18'E.), 658m high about 19 miles N of Point de Galle, appears as a large round-topped mountain from all directions; it is conspicuous and rarely obscured.

The central part of the S half of Sri Lanka is mountainous, and on a clear day its outline is visible from W. The higher peaks are generally veiled in haze, particularly during the Southwest Monsoon, but are often visible during the morning hours at other times of the year and, occasionally, all day during the month of March. The mountains terminate somewhat abruptly E at **Namunakuli** (6˚57'N., 81˚06'E.), 2,033m high.

With the exception of several isolated hills rising abruptly from the E plain, the remainder of the island is practically flat. The whole island is densely covered with tropical forest and jungle with the exception of the open grassland, and in the parts which have been cleared for agriculture, or in the hills where hundreds of square miles have been cleared for the planting of coffee, tea, and rubber.

The entire W and S coasts of Sri Lanka and many parts of the E coast are densely planted with coconut trees. Fresh and salt water lagoons, lying a short distance inland, exist on both the E and W coasts, and notably at the N extremity of the island, but only to a limited extent to the S.

Depths in the approaches to the Gulf of Mannar are deep and clear of dangers, with the 200m curve lying 40 miles SSE of Cape Comorin and about 13.5 miles W of Colombo. Immediately within this curve, W of Colombo, there are depths of less than 55m; this steep edge forms a valuable guide when approaching the land in thick weather or at night.

The coastal bank is fairly level, and off Colombo there are depths of 18.3m to within between 1 and 3.5 miles of the shore.

Depths in the approaches to the S and E coasts of Sri Lanka are deep and clear outside the 200m curve, which lies from 2 to 18 miles offshore until N of Trincomalee Bay, where the 200m curve is charted about 38 miles W of Point Pedro. In Trincomalee Bay depths of over 200m lie within a few hundred meters of the shore.

The 20m curve in general lies between 1 and 3 miles off the S and E coasts of Sri Lanka, except in the vicinity of Great Basses Reef, Little Basses Reef and Egeria Patch, and until N of 9˚N, where the 20m curve lies about 12 miles off Point Pedro.

## Cape Comorin to Tuticorin

**4.3** **Cape Comorin** (8˚05'N., 77˚33'E.), the S extremity of India, is low and sandy, with a small white pagoda on its extremity. This pagoda is surrounded by a high wall, above which the top of the pagoda may be seen. A bungalow lies NW of the pagoda. A conspicuous memorial, 37m high, lies close W of the cape. The coast close W of the pagoda is barren and sandy, but is wooded NE of it.

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Cape Comorin Light is shown from a square white tower, 34m high, and painted in red bands, about 0.3 mile NW of the cape. A church, 54m high, lies in a village about 0.5 mile N of the cape.

Good radar returns have been reported from Cape Comorin at 23 miles.

Foul ground extends about 0.5 mile S and SE from the cape. An area of foul ground lies 1.5 miles offshore, about 6 miles W of Cape Comorin.

The land rises gradually N of Cape Comorin so that from a distance the cape appears as a sandy promontory. A mountain, 370m high, about 4 miles NW of the cape, appears as a pointed cone except from E or S. A range, about 9 miles farther N, with heights up to 1,041m, resembles a camel's hump.

Mahendragiri, 1,654m high, lies about 19 miles N of the cape. These high peaks of the Western Ghats may be mistaken at a great distance for the 370m mountain nearer to the cape.

**Tides—Currents.—**The tidal currents off Cape Comorin set E during the flood and W during the ebb, but their direction and strength are much affected by the ocean currents.

The coast between Cape Comorin and Manappad Point, about 35.5 miles ENE, is somewhat higher than the remainder of the NW coast of the Gulf of Mannar, with undulating sand hills up to 60m high. The background consists of reddish soil and rises gradually to the foot of the Southern Ghats a few miles inland. Many villages and whitewashed churches lie along this coast, but landing in a ship's boat is always difficult and dangerous.

An obelisk, 8m high, lies on the coast about 2 miles N of Cape Comorin, and serves to mark the position of a stranded wreck about 0.5 mile ESE.

**Caution.—**When approaching Cape Comorin from the NW during the Northeast Monsoon, a vessel sheltered by the coast as far as Muttam Point, about 14 miles W of the cape, may suddenly pass from a calm into the strength of the monsoon, even if already well offshore.

**4.4** **East Cape** (8˚12'N., 77˚47'E.) is prominent, and the coastal reef, with depths of 5.5m, extends about 1 mile offshore near the cape.

**Anchorage.—**Shelter from W winds can be found in the bight between Cape Comorin and East Cape, but during the Southwest Monsoon landing by ship's boats should not be attempted as swells roll into the bight.

Anchorage for small vessels can be obtained, in 7.3m, in the bight N of East Cape, partially protected from W winds and swell by the coast SW.

**Manappad Point** (8˚22'N., 78˚04'E.) is a high sandy promontory with a rock base. A light is shown from a white, round concrete tower with red diagonal stripes. The village of Manappad lies 0.8 mile W of the point.

Manappad Outer Shoal, with a least depth of 7.3m, lies about 8 miles SE of Manappad Point. A 13.4m shoal, reported in 1976, lies about 6 miles farther E. Other shoals lie WNW and WSW. Vessels should avoid passing through this area, and in thick weather should not get into depths less than 35m.

**Anchorage.—**Good anchorage can be obtained during the Northeast Monsoon, in 11m, about 1 mile offshore between Manappad Point and the town of **Periya Talai**, about 6 miles WSW of the point. From June through August, when the Southwest Monsoon is strong, heavy seas roll in on this part of the coast, and vessels should then anchor off Alantalai or Punnakayal.

The coast between Manappad Point and **Tuticorin** (8˚28'N., 78˚10'E.) is low, sandy, and fringed with coconut trees.

Between Manappad Point and the village of Alantalai (Alendal), about 5.5 miles NNE, an area of foul rocky ground extends about 2.8 miles offshore. There are heavy breakers over this area during the Northeast Monsoon; these breakers extend 1 mile SE of Manappad Point.

Alendal Shoals, with depths of 3.7m, extend to about 4 miles ESE of Alantalai.

**Anchorage.—**Anchorage by small vessels can be taken off Alantalai, in 7.3m, mud, with the church bearing 292˚, distant 1.8 miles. Protection from SW winds is afforded by the coastal reef to the S.

**4.5** **Tiruchendur Point** (8˚30'N., 78˚08'E.) is a low, rocky bluff headland, with a prominent dark-colored temple, 54m high, at its extremity. This pagoda is a useful mark and can be seen for a distance of about 15 miles. A conspicuous chimney, 28m high, painted in red and white bands and emitting a flame, lies about 5 miles NNW of the point. In 1976, a depth of 14m was reported 9.3 miles ESE of the point.

From Tiruchendur Point to abreast the fishing village of Punnaikkayal, about 8 miles N, the coastal reef extends about 2.3 miles offshore. In heavy weather, the sea breaks on this reef in depths of 4.6 to 5.5m; usually it breaks farther inshore in depths of 3.7m.

Punnaikkayal, about 1 mile inland, can be identified by the ruins of a church and by a group of palmyra trees on the beach. A 4.6m patch lies about 3 miles E of the village.

**Anchorage.—**Anchorage for small vessels, in 7.3m, can be found off Punnaikkayal, about 1.5 miles offshore, with the clump of trees bearing 258˚. The coastal reef to the S provides shelter from S winds, but local knowledge is necessary.

## Tuticorin (8˚48'N., 78˚10'E.)

World Port Index No. 49320

**4.6** Tuticorin, also known as Tuttukuddi, is the largest commercial town on the W side of the Gulf of Mannar. The port is an open roadstead, well-protected by the land to the W from the Southwest Monsoon; it is available in all seasons.

The all-weather harbor of New Tuticorin, about 0.5 mile S of Tuticorin, handles the majority of cargo for the port. The port is protected on its N side by North Breakwater, which is 2.3 miles long, and on its S side by South Breakwater and Eastern Breakwater. The rocky sea bottom, making dredging closer inshore impossible, necessitates these long breakwaters. Natural depths of 11m become available only at a distance of approximately 2 miles from shore. The entrance to the harbor lies 3 miles SE of Pandyan Tivu Light.

Tuticorin also has a passenger terminal for ferry services between the port and Colombo.

**Port Authority of Tuticorin**

http://www.tuticorinport.com

**Tides—Currents.—**The tidal rise at Tuticorin is 1m at MHWS, and 0.7m at near HWN.

The currents along the coast, outside the islands near Tuticorin, generally set with the wind, varying in strength from 1 to 2 knots. They are weak and variable at the change of the monsoons. When there is a lull in the monsoon, there is a tendency for current to set into, instead of across, the Gulf of Mannar.

The tidal currents at Tuticorin set in a N direction with the flood tide and in a S direction with the ebb.

**Depths—Limitations.—**The approach channel is 183m wide, and in 2002, was being dredged to a depth of 11m. The current maximum permissible draft is 8.2m.

The coal jetty on North Breakwater accommodates vessels up to 35,000 dwt, with a maximum length of 235m and a maximum draft of 8.2m. The oil jetty, situated seaward of the coal jetty, can accommodate vessels with a maximum length of 228m and a maximum draft of 8.2m.

There are four berths, each with a depth of 9.1m alongside, on South Wharf, which lies on the inner side of Eastern Breakwater. Berth information is given in the accompanying table..

**South Wharf—Berth Information**

| Berth No. | Depth | Remarks |
|---|---|---|
| 1 | 9.1m | General cargo. Maximum vessel length of 168m. |
| 2 | 9.1m | Cement. Maximum vessel length of 168m. |
| 3 | 9.1m | Salt. Maximum vessel length of 192m. |
| 4 | 9.1m | Fertilizer. Maximum vessel length of 192m. |

A drying reef extends up to 0.5 mile E of Pandyan Tivu. Orripar, a rock shoal with a least depth of 0.9m, lies about 0.3 mile N of Pandyan Tivu.

Kariapar, a rocky pinnacle with a depth of 1.5m, lies about 0.8 mile NE of the NE extremity of Pandyan Tivu. Rocky pinnacles, each with a depth of 1.5m, lie about 0.2 mile E and 0.5 mile ENE, respectively, of Kariapar.

Van Tivu, about 2.8 miles NNE of Pandyan Tivy, lies on a reef which extends about 0.5 mile NE and 0.4 mile SE from it. A beacon, 10m high, lies on the S extremity of Van Tivu.

A boat channel, about 137m wide, leads to the piers at Tuticorin from a position about 1.8 miles NE of the N end of Pandyan Tivu. In 1974, there was a least depth of 3.7m in the channel. The least depth alongside the piers and wharves at Tuticorin is 3.7m.

**Aspect.—Vallanad** (8˚43'N., 77˚54'E.), a conspicuous red hill, 314m high, about 17 miles WSW of Tuticorin, may be seen before Pandyan Tivu Light is visible.

Pandyan Tivu Light is shown from the N end of Pandyan Tivy; a racon is situated at the light.

A beacon, consisting of a white masonry obelisk, 10m high, lies near the root of the S breakwater. Two water towers, with heights of 29 and 22m, are conspicuous about 0.3 mile and 1.3 miles W, respectively, of the above light.

Lights in line, bearing 312˚, lead into New Tuticorin; the front light is shown from a metal framework tower lying about midway along the N breakwater while the rear light is shown from a similar tower 1 mile S of Pandyan Tivu Light. A light is shown from the head of the N breakwater. Moored 1 mile SE of the harbor entrance is the lighted fairway buoy. The channel leading NW to the entrance of the new harbor is marked by lighted buoys.

The following objects in Tuticorin are conspicuous and easily identified:

1. The yellow spire of Sacred Heart Cathedral, about 0.2 mile NW of the pierhead light at Tuticorin.
2. A chimney, 45m high, and a water tower, about 0.2 mile ENE of the cathedral.
3. The gray spire of the Roman Catholic Church, about 0.3 mile S of the cathedral.

**Pilotage.—**Pilotage for Tuticorin and New Tuticorin is compulsory; it is available 24 hours for all vessels except tankers, when it is available only from 0600 to 1800. Pilots board close E of Fairway Lighted Buoy while the vessel is still underway.

Pilots should be requested through the ship's agent 72 hours in advance. The vessel's ETA should also be sent 72 hours in advance and confirmed or amended 6 hours in advance.

**Signals.—**A signal station, with a flagstaff 29m high, lies on the N end of Pandyan Tivu. This station, manned day and night, is connected to the mainland by telephone. Communication is by International Code of Signals.

Storm signals are displayed from the signal station; the General System is used. See Pub. 160, Sailing Directions (Planning Guide) South Atlantic Ocean and Indian Ocean for further information.

**Anchorage.—**The recommended anchorage is 5 miles SE of Pandyan Tivu Light, good holding ground of mainly sand and shingle. A dangerous wreck is charted about 2.3 miles ESE of Pandyan Tivu Light.

During the Northeast Monsoo,n vessels should have a good scope of anchor chain and a second anchor always ready as there are many dangers to leeward.

During the Southwest Monsoon, from about mid-May to mid-August, the wind, though sometimes violent, is invariably offshore, and the sea is calm or slight.

**Caution.—**Vessels approaching the anchorage should make sure of their position, as the coast is low and the shoals extend some distance from it. Vessels making the anchorage at night should approach to seaward of all off-lying dangers.

Several wrecks and foul ground lie between 1.5 and 2.3 miles E and ESE of Pandyan Tivu Light.

## Tuticorin to Valinokkam Point

**4.7** The town of **Pattanamarudur** (8˚55'N., 78˚11'E.), with some large trees visible up to 10 miles offshore, lies at the head of this bight, about 7 miles N of Tuticorin. The bight is filled by a flat, with depths of less than 5.5m, extending up to about 4.5 miles offshore. Kariya Shuli and Vilangu Shuli, two low-lying sandy islets, lie on this flat.

Between the Vaippar River and Vembar, about 7 miles NE, shoal water, with depths under 5.5m, extends up to 3.5 miles offshore. Two shoals, with least depths of 4.6 and 2.7m, lie 4.5 miles SE and 4 miles S, respectively, of Vembar.

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Between Vembar and Valinokkam Point, about 18 miles ENE, the coast is low, sandy, and covered with palm trees. Detached shallow flats, on some of which are islands, lie from 1 to 5 miles offshore along this coast.

**Caution.—**Vessels, other than small coasting vessels, should not approach the coast between Tuticorin and Valinokkam Point, about 37 miles NE, closer than 6 or 7 miles due to the many off-lying shoals. The coastline forms a bight between Tuticorin and the entrance of the Vaippar River, about 13 miles NNE.

## Valinokkam Point to Pamban Pass

**4.8** The coast between Valinokkam Point and Ramen Point, about 32 miles ENE, is fronted by a chain of islands and shoals extending up to 6 miles offshore. Depths outside this chain of islands and shoals are regular, but in places overfalls occur.

An anchorage is located 2.5 miles NE of Valinokkam Point. A dangerous rock lies about 1 mile WSW of the anchorage.

Large vessels should not navigate in depths less than 22m off this stretch of coast as the area is imperfectly surveyed and several relatively shoal patches are charted. They should not sight any of the islands of which the chain is composed.

Kilakkarai Passage, the shallow passage between the chain and the coast, can only be used by small vessels; local knowledge is necessary due to the numerous shoals, with depths of less than 1.8m, and the narrow, undefined channels between them. The passage affords a smooth passage for small coastal vessels for half the distance between Tuticorin and Pamban.

**Valinokkam Point** (9˚09'N., 78˚39'E.) is marked by a beacon, 6m high. A submerged rock is marked by a beacon about 1.5 miles NE. These beacons are useful marks for vessels making the W entrance of Kilakarrai Passage, between Valinokkam Point and Anaipar Tivu (Anapipar Tivu), about 2 miles E.

The passage then leads S of a submerged rock, marked by a beacon, about 4 miles ENE of Valinokkam Point, and then to the anchorage off Kilakarrai. A light is shown from a white hexagonal concrete tower with red bands, 30m high, at Kilakkarai.

**Pilotage.—**Pilots for Kilakarrai Passage and for Pamban Pass are stationed at **Kilakarrai** (9˚14'N., 78˚47'E.).

**Anchorage.—**Anchorage can be taken off Kilakarrai by small vessels; local knowledge is necessary. Anchorage, somewhat sheltered from the Southwest Monsoon, can also be taken off **Muttupetai Betel** (9˚16'N., 78˚55'E.).

## Gulf of Mannar—North Side

**4.9** The N side of the Gulf of Mannar is formed by Pamban Island and Adam's Bridge, both described in paragraph 4.11, and Mannar Island, described in paragraph 4.12.

**Pamban Pass** (9˚17'N., 79˚12'E.) is the navigable channel, partly artificial, through the banks which occupy the space between the W end of Pamban Island and the mainland. It is of great advantage to coastal craft trading between ports on the W coast of India and ports of the Bay of Bengal.

A rocky barrier extends in a straight line between the W coast of Pamban Island and Ramen Point, about 1.3 miles W. Pamban Viaduct, which carries the South India Railway is built on this barrier.

A cutting, 61m wide, through the barrier and crossed by a rolling lift-bridge, lies about 0.2 mile W of Pamban Island. The bridge is under the control of the Port Conservator at Pamban, who requires 30 minutes notice to open the bridge; in an emergency it can be opened immediately.

On the W side of Pamban Pass the barrier is named The Great Dam. It consists of large masses of flat-surfaced rocks, which were formerly portions of a causeway that extended from Pamban Island to the mainland. The N face of the dam is steep-to, and at LW presents a wall-like appearance, but the boulders are sufficiently separated to allow a free passage to the water.

Ramen Point is the E extremity of a narrow tongue of land projecting E from the coast. A temple in ruins lies about 183m W of the point; a coconut plantation lies about 183m farther W.

**Depths—Limitations.—**In 1979, it was reported that the maximum draft for vessels using the pass was limited to 2.1m.

The pass is used by some coastal vessels of from 200 to 800 grt and about 61m in length; these are as large as can safely transit the channel.

**Tides—Currents.—**The tidal rise at Pamban Pass is 0.7m at MHWS, and 0.5m at MHWN.

The pass is well-marked with beacons, buoys, and is easy to navigate.

Tidal currents are only noticeable at the change of the monsoon in March, April, and October. At other times they are masked by the S current during the Northeast Monsoon, and by the N current during the Southwest Monsoon. These currents often attain velocities of 6 knots, making passage of the pass difficult.

**Pilotage.—**Pilotage is compulsory for merchant vessels. Licensed pilots at Pamban are under the orders of the Pamban Port Conservator. Pilots are stationed at Kundagal (Kundugal) Point (9˚15'N., 79˚13'E.), the SW extremity of Pamban Island, Mundel Point at the W end of Pamban Island, and on the N side of Pamban Pass, to look out for vessels approaching Pamban. There are no official signals for vessels needing a pilot, but local craft usually display a red or white flag.

**Signals.—**Flag P of the International Code of Signals, displayed from the port offices flagstaff at Pamban, indicates the bridge is fully open. This flag displayed from the N yardarm indicates that vessels from N may pass through, and from the S yardarm indicates that vessels from the S have priority.

## Pamban Pass—Approaches

**4.10** **Mansfield Patch** (9˚10'N., 79˚18'E.), with a least depth of 5.8m, about 7 miles SE of Kundagal Point, is the N and shallowest of a group of detached patches. Batt Patch, with a least depth of 4.9m, lies about 2.8 miles WNW of Mansfield Patch; the sea breaks on Batt Patch in a fresh breeze.

Manauli Reef, with its E edge about 4 miles SW of Kundagal Point, consists of coral and dries in places. The E end of the reef is marked by beacons. Manauli Tivu (Manilla Tivu), with a

conspicuous white beacon close E, lies about 2 miles from the E end of the Reef.

Pulli Shoal, with a least depth of 1.2m and over which the sea breaks, lies about 3 miles E of Manauli Tivu. Puma Channel, leading to Pamban Pass, lies between Manauli Reef and Pulli Shoal.

Pulli Reef, N of Pulli Shoal, has three islands on it. Pumurichan, along the W edge, has a conspicuous beacon, 10m high, on its SW side; Pumurichan Tivu, farther SE; and Kurisadi Tivu (Kursadi Tivu). The extensive coral reef dries in places; its N edge is well defined at low water, but its S edge is indented and the sea breaks on it. Beacons mark the S and NW sides of Pulli Reef.

Kurisadi Beacon No. 2, 7m high, lies in the middle of Kurisadi Tivu. Kurisadi Beacon No. 1, 4.8m high, lies about 0.2 mile NW of Kurisadi Beacon No. 2, on the N edge of Pulli Reef.

Shingle Island, low and covered with scrub, lies nearly 1 mile ESE of Kurisadi Tivu. The island lies on Kallaru Reef, a coral reef, on the SW edge of which the sea breaks heavily. A conspicuous triangular white beacon, 9.5m high with a black band, lies on the E end of Shingle Island.

Kundagal Channel leads into Kundagal Gut, between Kundagal Point and the N side of Kurisadi Tivu, then NW into Sand Bank Channel, then NNE through The Basin to Pamban Pass.

The tidal current sets W through Kundagal Channel on the flood, and then W along the N edge of Pulli Reef, where it joins with the flood current through Puma Channel. The combined currents then set N, but they are weak unless influenced by strong S winds.

**Anchorage.—**There is anchorage, in 5.8 to 7m, in Kundagal Channel.

**Directions.—**Vessels approaching Pamban Pass from the S should use great care as the off-lying islands are low, and there are no hills or conspicuous landmarks. During the Southwest Monsoon, haze frequently overhangs and obscures the islands. Vessels over 4.6m draft should not approach within depths of 14.6m until their position is accurately determined.

The first landmarks identifiable from seaward are **Rameswaram Temple** (9˚17'N., 79˚19'E.), 50m high, appearing as a large square tower viewed from NE or SW and as a narrow pinnacle from SE or NW; Gandhamana Temple, 44m high, about 1 mile NW, lying in a large enclosure, but less conspicuous; Pamban Light, a white tower, on a sandhill on the NW point of Pamban Island; a red square water tower on a framework structure, 18m high, about 5 miles W of Pamban Light, and conspicuous when bearing less than 050˚; and the beacon close E of Manauli Tivu, Pumurichan, and Shingle Island.

Vessels approaching Kundagal Channel, which is the better and more direct approach, should, after having passed the outlying dangers, steer to pass about 0.4 mile E of Shingle Island, taking care to avoid the shoals E. When the beacon about 0.3 mile NE of Kundagal Point bears 286˚, steer for Kundagal Gut, passing S of Kundagal Point. Continue W and bring Kurisadi Beacon No. 1 and Kurisadi Beacon No. 2 in line, astern, bearing 130˚; this range leads through Sand Bank Channel passing close SW both of a buoy, moored 0.6 mile W of Kundugal Point, and a buoy moored 0.5 mile further WNW. Keep close to beacons marking the SW side of the latter channel, and SW of Elbow Buoy, a red conical buoy at the junction of Sand Bank Channel and The Basin, a narrow channel leading NNE, with depths of 4.6 to 6.7m in the fairway, which is marked by beacons. A NNE course through The Basin leads to the S end of Pamban Pass.

A buoy moored 0.5 mile SW of Elbow Buoy marks a shoal ground of less than 1m on the W side of the deeper water at the intersection of Sand Bank Channel and The Basin.

Puma Channel, the SW approach, only available to those with local knowledge, demands navigation by eye. Manauli Reef, on the W side, is well-marked on its S and E sides by breaking seas.

**Mandapam South Beacon** (9˚17'N., 79˚09'E.), in line bearing 338˚ with a beacon on a low hill NNW, leads into Puma Channel. When the beacon on the SW side of Pumurichan bears 060˚, vessels should steer NE through Puma East Channel; then steer along the N edge of Pulli Reef and into the channel N of Pulli Reef, marked by beacons; and finally steering into Sand Bank Channel and following the directions given above.

The vessels bound for the drydock at Mandapam, about 0.5 mile E of Mandapam South Beacon, should pass through Puma Channel as described and, leaving Cana Paru Reef about 0.3 mile to port, continue on the 338˚ range line until 1.3 miles from Mandapam South Beacon; local knowledge is necessary from this point.

The drydock at Mandapam is 81m long and 15m wide, with the sill 2m below chart datum.

## Pamban Island

**4.11 Pamban Island** (9˚17'N., 79˚18'E.) is low, sandy, and well-planted with coconut trees towards its W end, where a broad peninsula extends about 3 miles N.

**Lands End** (9˚10'N., 79˚26'E.) is the SE extremity of Pamban Island; a small but conspicuous building lies near the point.

Dhanushkodi, about 2 miles NW of Lands End, is a railroad terminal; the red-roofed railway buildings are conspicuous.

Chuttram, close SE of Dhanushkodi, lies within a clump of palm trees about 24m high and is easily identified.

Mukkundaraya Chattram, a bushy dune about 2.5 miles farther NW, is easily identified.

Adam's Bridge is a narrow ridge of sand and rocks, mostly dry, which connects Pamban Island with Mannar Island, about 16 miles ESE. It is composed mostly of shifting sandbanks, with intricate shallow channels between them.

Shoal water extends up to 5 miles from the ridge, with depths under 11m. Farther seaward, depths increase sharply to over 183m about 12 miles SW of Adam's Bridge.

## Mannar Island

**4.12 Mannar Island** (9˚05'N., 79˚50'E.) is separated from Sri Lanka by a boat channel which is crossed by a conspicuous railway bridge and a road bridge. The island is wooded and has low sandhills on its SW side for a distance of about 5 miles from its SE end. At the W end, there are coconut and other palms near the villages.

A disused structure, consisting of a conspicuous black steel framework tower, 28m high, lies on the W end of Mannar Island.

**Tides—Currents.—**During the Southwest Monsoon, a strong current sets N over Adam's Bridge, but abates towards the W and towards the Indian coast. A confused sea is generally encountered near Mannar Island.

**Anchorage.—**Anchorage can be obtained, in 5.5m, mud, with the railway bridge between Mannar Island and Sri Lanka bearing 099˚, about 5 miles.

During the Northeast Monsoon, good anchorage can be obtained by vessels drawing not more than 4.3m, about 1.5 miles off the W part of the island.

## Mannar Island to Kudremalai Point

**4.13 Doric Beacon** (8˚47'N., 79˚56'E.), a white masonry tower about 7.5 miles N of the mouth of the Kal Aru, is conspicuous seaward in favorable light. About 1.5 miles N of the tower is the S of several mouths of the Aruvi Aru. A white obelisk lies on the N entrance point of the Kal Aru.

In the bight between the mouth of the Kal Aru and Adam's Bridge, about 30 miles NW, are pearl banks extending up to 10 miles offshore and with depths of less than 11m.

Numerous rocks nearly awash lie about 1 to 5 miles S of Doric Beacon.

Silavatturai Reef lies about 4 miles SW of Doric Beacon. Arripu Reef extends from close NW of the above reef to about 4 miles farther NW. Both reefs have depths of less than 1.8m. A beacon marks the N end of Arippu Reef. Vankalai Reef, about 5 miles NW of Arippu Reef, dries at its SE end; between the two reefs there is a 0.9m patch.

Shoal water, with depths of less than 11m, extends about 12 miles offshore between the mouth of the Kal Aru and **Moderegam Point** (8˚36'N., 79˚55'E.).

Cheval Bank, with a least depth of 4.6m, lies about 11 miles W of the mouth of the Kal Aru. A submerged obstruction, dangerous to navigation, was reported (1958) on the bank.

A beacon, consisting of a white obelisk, 29m high, lies about 0.5 mile S of Moderegam Point, and is visible up to 15 miles seaward when the light is favorable.

**Anchorage.—**Small vessels can anchor, in about 6.1m, from 2 to 3 miles W of the above beacon. Vessels should approach this anchorage passing N of Cheval Bank.

**Caution.—**It is not advisable to close the coast of Sri Lanka when N of **Karaitivu** (8˚32'N., 79˚47'E.), because of the extensive shoal banks lying off the coast.

Great caution should be exercised if obliged to navigate in depths of less than 5.5m for a distance of about 10 miles N of Moderegam Point due to several uncharted coral heads with depths of less than 0.6m in the area.

## Kudremalai Point to Negombo Point

**4.14 Kudremalai Point** (8˚32'N., 79˚52'E.) is steep and rocky, with three long sand mounds S of it. A white masonry tower, 68.5m high, known as Kudremalai Tower, lies on the highest of these mounds. A beacon, 38m high, consisting of a black tripod with a diamond-shaped topmark, stands on the point.

Karaitivu (Kara Tivu), long and narrow, lies with its N end about 5.5 miles W of Kudremalai Point; the island is breached about 2 miles from its S end. The area between Karaitivu and Cheval Bank has not been completely examined; further shoaling has been reported.

Portugal Bay, E of Karaitivu, is shallow and offers anchorage to small vessels, in a depth of 5.5m, but local knowledge is necessary.

**Anchorage.—**Vessels with a draft not exceeding 4.3m can obtain good anchorage, in a charted depth of about 6.1m, about 2 miles W of Kudremalai Tower.

Dutch Bay, entered S of Karaitivu, is shallow.

Bar Reef, which dries, lies about 3 miles W of the entrance to Dutch Bay.

The coast between Dutch Bay and Chilaw Point, about 45 miles S, is formed by the seaward side of a narrow peninsula.

A white tower, known as Aruakalu Tower, lies on the summit of a 79m hill about 4.5 miles NE of **Kalpitya** (8˚14'N., 79˚46'E.).

A shallow flat of rock and sand extends about 7 miles SW from the coast abreast **Mampuri** (7˚59'N., 79˚45'E.). A 3.7m shoal lies on this flat about 4.3 miles WSW of Mampuri and about 3.5 miles offshore; this shoal is particularly dangerous as depths over 183m are about 1.5 miles W of it.

Vessels passing the peninsula should keep 7 miles offshore and in depths over 37m to avoid the above-mentioned shoal.

A reef, above and below-water, lies about 3.5 miles N of Chilaw Point and about 0.5 mile offshore.

**Chilaw Point** (7˚36'N., 79˚48'E.) can be identified by a sand hill and a round hummock nearby. A red can buoy is moored about 3.5 miles WSW of the point.

**Anchorage.—**Anchorage for small vessels can be obtained, in 11m, about 1.8 miles NW of Chilaw Point. Vessels making this anchorage from the S should keep 4 or 5 miles offshore and close to the land near the point.

The coast from Chilaw Point to Negombo Point, about 24 miles S, is almost featureless except for a break in its fringe of coconut trees, about 4 miles N of Negombo Point, marking the entrance to Maha Oya.

## Negombo Point to Colombo

**4.15 Negombo Point** (7˚12'N., 79˚48'E.) has been reported to give good radar returns at 22 miles. The twin towers of a church in Negombo, E of the point, are conspicuous. A church with a red roof and low twin towers, together with a school house about 183m NNW, is conspicuous about 5.5 miles S of the point.

A narrow reef, with a least charted depth of 2.7m, lies with its S end about 2 miles NNW of Negombo Point; a dangerous wreck lies at the SE of the reef.

**Anchorage.—**Anchorage can be taken about 1 mile W of this reef, except during the Southwest Monsoon. Small vessels, with local knowledge, can anchor E of the reef, in about 6.1m, about 0.5 mile offshore.

A 14.2m shoal extends over 3 miles N from a position about 8.5 miles WSW of Negombo Point.

**Mutwal Point** (6˚58'N., 79˚51'E.), at the N end of Colombo Harbor, lies about 14.5 miles S of Negombo Point. A trawler

harbor, with a fishing harbor close E, lies NE of the point; a breakwater shelters each harbor from W.

Kalapu Gala, a narrow rocky reef, extends about 4 miles N from about 0.3 mile ENE of Mutwal Point; the reef lies parallel to the coast and about 0.5 mile offshore, with several rocky heads with depths of less than 1.8m. The sea breaks over the reef during the Southwest Monsoon, and even in calm weather rollers occur.

The entrance to the Kelani Ganga lies about 0.8 mile NE of Mutwal Point. The coast, for about 5 miles N of the river entrance, is sandy and thickly fringed with coconut trees.

A beacon, 8m high and painted white, lies about 2.3 miles N of the entrance to the Kelani Ganga.

## Colombo (6˚57'N., 79˚51'E.)

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**4.16** Colombo, the principal port of Sri Lanka, lies between Galbokka Point (6˚56'N., 79˚50'E.) and Mutwal Point, about 2 miles NNE. Galbokka Point is a black rocky knoll connected by a short sandy isthmus to the land at the S end of Colombo Harbor.

The harbor is artificially formed by three breakwaters, as follows:

1. Southwest Breakwater, extending NNE from the shore at the S end of the harbor.
2. Northwest Breakwater, a detached breakwater.
3. Northeast Breakwater, extending W from Mutwal Point.

There is a foul area on the inner side of the Northwest Breakwater. The S end of the harbor is connected with Colombo Lake by a canal with locks; the canal is dredged to a depth of 3m.

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**Winds—Weather.—**The Southwest Monsoon brings heavy rain and winds which occasionally reach gale force. During this time a moderate swell runs in the harbor, making cargo handling difficult.

**Tides—Currents.—**The tidal rise at Colombo is 0.7m at MHWS, and 0.5m at MHWN.

The current off Colombo is variable; its velocity seldom exceeds 0.5 knot. Near shoal water the current sets N at a velocity of 1.5 knots during the Northeast Monsoon, resulting in an E set off the W entrance; this has also been reported during the Southwest Monsoon.

**Depths—Limitations.—**The W entrance, between Southwest Breakwater and Northwest Breakwater, has a dredged depth of 13m; the approach, marked by lighted buoys and a directional light, has been dredged to a depth of 15m. There is a disturbed swell across this entrance during the Southwest Monsoon.

The N entrance, between Northwest Breakwater and Northeast Breakwater, has a limiting depth of 10.5m in its approaches. An 8.5m rock lies close outside this entrance, about 0.1 mile N of the head of Northeast Breakwater.

Dredging is carried out periodically to maintain the dredged depths.

A scend of up to 1m can be experienced in the harbor.

Vessels may enter and leave the harbor by whichever entrance is more convenient, subject to the depth limitation for the N entrance.

Vessels are not permitted to navigate the harbor, or to lie at moorings with less than 0.6m under their bottoms, except by special permission of the port authorities.

Queen Elizabeth Quay is on the E side of the SW breakwater. Berth No. 5 and Berth No. 6, at the N end of the quay, are used by container vessels with a maximum draft of 9.7m (1984). Berth No. 1 through Berth No. 4, along the central part of the quay, are used by ocean-going vessels with drafts of 9.1 to 10.1m (1984). Berths for small vessels are located at the S end of the quay.

Delft Pier (Bandaranaike Pier), in the S part of the harbor, berths vessels on either side and across the head.

Prince Vijaya Pier, on the S side of the NE breakwater, has depths of 7.5 to 9.5m alongside.

The area between North Pier and South Pier is known as the Oil Dock. The N side of South Pier, 270m long with a depth of 11m alongside and equipped with an oil pipeline, can accommodate a tanker with a maximum length of 228m and a maximum draft of 9.5m.

Guide Pier, on the S side of South Pier, can accommodate two vessels and has 7.5 to 9.5m alongside. The entrance to the drydocks is located at the end of this pier and vessels berthed to it have to be moved clear when vessels are entering or leaving the drydocks. Coconut oil can be loaded at Guide Pier.

To the S of the drydock entrance lies a range of wooden coaling jetties for lighters, with depths of about 4.6m alongside. Farther S are several more jetties including Block Jetty, on which there is a flagstaff.

Jaye Container Terminal is situated on the E side of the harbor opposite the W entrance. It has 1,292m of quayage with alongside depths between 12 and 14m and is equipped with modern container handling facilities, including four 35.5 ton gantry cranes.

An oil jetty, 90m in length and dredged to 11m, is situated on the E side of the Northwest Beakwater.

**Aspect.—**The land in the vicinity of Colombo is low and will not be seen from any great distance, but in exceptionally clear weather, Adam's Peak and the other mountains of Sri Lanka may be visible from a great distance.

Approaching from the W, the buildings in that part of the town, at the S end of the harbor, and known as The Fort, will first be seen at a distance of about 12 miles. Hotel Taprobane, with three small round turrets; the Clock Tower, which is conspicuous; and the offices of the Bank of Ceylon, are among the several prominent buildings in The Fort.

Drydock No. 1 has a length of 213m, a breadth at the entrance of 26m, a depth over sill at MHWS 9.75m, and a capacity of 30,000 dwt. Drydock No. 2 has a length of 107m, a breadth at the entrance of 16.4m, and a depth on sill at MHWS 6.7m. Drydock No. 3 has a length of 122m, a breadth at entrance of 16m, and a depth on sill at MHWS 5.5m. Drydock No. 4 is the largest of the docks, with a length of 263m, a width of 43m, and a depth over the sill at MHWS of 9.3m. It has the capacity to accommodate vessels up to 100,000 dwt.

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**Colombo Light** (6˚56'N., 79˚50'E.), on the W side of The Fort, about 91m within Galbokka Point, is a circular stone tower, 15m high, painted in black and white checkers.

Good radar returns have been reported from Colombo Light and Colombo breakwaters at 20 and 18 miles, respectively. A conspicuous white monument on four yellow curved legs lies at an elevation of 82m about 0.3 NNW of Galbokka Point.

On nearer approach to the harbor, the following landmarks may be identified:

1. A flour mill, 65m high and marked by red obstruction lights at the NE corner of the harbor.
2. A tall red brick chimney, close W of the drydock in the NE part of the harbor.
3. St. James Church, with twin towers, and St. Lucia's Cathedral, with a dome, about 1.5 miles NE of Galbokka Point.
4. All Saints' Church, with a tall spire about 1.3 miles E of Galbokka Point.

Two steel framework radio masts, 93m high and showing red obstruction lights, lie about 2.5 miles ESE of Galbokka Point. Galle Face Hotel, a large red building, is conspicuous on the coast, about 1 mile S of the latter point. The Town Hall, with a white dome, is also conspicuous about 1 mile farther E.

South of Galbokka Point to Mount Lavinia, about 6.5 miles S, a narrow ridge of rocks, awash in some places and with the appearance of a barrier reef, lies about 183m offshore. Along this stretch, the railway stations at Kollupitiya, Bambalapitiya, Wellawatt, and Dehiwala, with their stone-covered louvered exteriors, show up prominently at the edge of the beach in the afternoon light.

**Mount Lavinia** (6˚50'N., 79˚52'E.) can be identified by a hotel which is radar conspicuous, a large white building, 29m high, lying on a rocky point on the shore. The land rises behind the hotel, forming a dark background, rendering it the most conspicuous object on this part of the coast, and visible in favorable light, 12 miles offshore.

**Pilotage.—**Pilotage is compulsory for all merchant vessels except those exempted by the port authorities. Pilots are available 24 hours, although it is unusual for a pilot to board between 0000 and 0400.

Requests for pilots, stating the vessel's ETA, should be made 24 hours in advance, with later corrections to the ETA if necessary.

In 1980, it was reported that all vessels that can be accommodated in Galle Harbor (under 122m in length and 6.4m draft) were being diverted to Galle, even though berths were available in Colombo Harbor. From these anchorages, vessels should contact the pilot station on VHF channel 16 for further instructions.

The pilot station is located on the spur of Southwest Breakwater.

A vessel wishing to take a pilot should make one of the signals prescribed by the International Code of Signals and indicate the name and draft as soon as the vessel arrives within visual signaling distance of the port.

To facilitate embarkation of the pilot, vessels should, unless they have been previously intercepted by the pilot launch, pick up the pilot 2 miles NW of Southwest Breakwater Light. Vessels approaching this position should be on a SE course. A pilot motor launch, showing the customary signals, will come alongside vessels in this position.

Vessels are cautioned, unless boarded by a pilot or previously ordered to do so, not to approach the port within the 1 mile limit.

The following provisions should be made to assist the pilot in boarding:

1. A pilot ladder on the lee side. A boat rope is not required.
2. Two manropes of at least 3 inch line, with the lower ends free, are to be hung from the vessel's rail.
3. By night, a bright light to be shown midway between the rail and the water to indicate the position of the ladder and the manropes.
4. In vessels of high freeboard fitted with gangway doors, the lee door should be opened and the ladder hung from there. In the event of weather conditions being such as to prevent the vessel being boarded by a pilot outside the harbor, the appropriate signals will be displayed at the pilot station. The vessel may, at the discretion of the port authorities, be given the option of proceeding into harbor and picking up the pilot inside, the vessel being instructed by signal whether to run in or stand off.

The option to enter is not given at night under normal circumstances.

Vessels waiting to enter should remain under way as convenient, well clear of both entrances.

A vessel intending to leave harbor should make one of the signals for a pilot30 minutes before being ready to sail.

In normal circumstances the pilot will leave an outgoing vessel as it passes the pilot station.

If at any time assistance is required from the port authorities, the signal should be made for a pilot.

**Regulations.—**Vessels in Colombo Harbor, after they have been moored to the satisfaction of the port authorities, are responsible for tending their own lines.

**Signals.—**The signals in use in Colombo Harbor are shown in the accompanying table; the flags are from the International Code of Signals.

The port signal station and pilot station are sited together. The signal station maintains a day watch, but the pilot station maintains a 24-hour watch.

Any vessel observing that a person has fallen overboard from any ship, boat, lighter, or other craft should make the following signals:

1. By day:
   a. Hoist International Code Flag O, and haul it up and down to attract attention.
   b. Sound short blasts on the siren or whistle.
2. At night:
   a. Flash the letter O in Morse Code in the direction of the pilot station.
   b. Sound short blasts on the siren or whistle.

The above signals will be observed by either the pilot station, the harbor police, or the port fire brigade; a motorboat will then be dispatched to the scene.

When a large red flag is displayed on a floating crane engaged on new construction work, all vessels passing or in the vicinity are to proceed at such a speed that they cause no wash or any kind, or disturbance affecting the crane.

The appropriate quarantine signal is to be displayed by all vessels arriving in the harbor and no person except the pilot is to be allowed to board or leave the vessel until pratique is given. Vessels having, or having had within 10 days prior to arrival, any infectious disease are placed in quarantine for a period decided by the port health officials. In such a case, the vessel may have to anchor in the roadstead or other place as directed by the port authorities.

Vessels in quarantine must display the necessary signals.

Vessels discharging dangerous petroleum are surrounded, at a distance of not less than 30m, by a rope boom floated on red wooden buoys and displaying the following signals; by day, a red flag over a green flag; by night, four lights vertically disposed, red and green alternately.

**Anchorage.—**A tanker SPM buoy is situated 4.5 miles NW of Colombo Light. A submarine pipeline is laid in an ESE direction from the buoy to the root of the Northeast Breakwater. All shipping, other than tankers using the SPM buoy, are advised to keep clear of the area covering a radius of 1.2 miles centered on lighted SPM. Passage through this area is prohibited.

All shipping other than fishing vessels, is prohibited from entering the charted area centered in position 6˚58'N., 79˚51.3'E.

A restricted area is established and passage through this area is prohibited around the outfall pipeline extending 1 mile NW from the N end of the port area, marked by a lighted buoy moored about 0.8 mile NNW of the N entrance.

Vessels arriving off Colombo should anchor off Negombo Point in the vicinity of position 7˚11.5'N., 79˚45'E., or off Panadura, S of latitude 6˚43'N., until instructed to proceed to the anchorage off the harbor entrance.

**Directions.—**When making Colombo from the W, it is better for a vessel to be S than N of the port, as there are no conspicuous landmarks N.

Approaching from the W, steer to bring Colombo Light bearing about 090˚ until the vessel's position is accurately determined; then a course clear of dangers can be laid for the harbor.

Vessels coming from the N or S, should keep in depths over 37m until Colombo Light bears 090˚, then proceed as previously directed.

It was reported in 1980, that all vessels arriving from W or N should first anchor off Negombo Point (7˚12'N., 79˚48'E.), and vessels arriving from the S should anchor S of the latitude of **Panadura** (6˚43'N., 79˚54'E.).

**Caution.—**Ona Gala, a narrow ridge, with its S end about 3.3 miles N of Galbokka Point, has a least depth of 6.4m at Galawala, near its N end. Vessels approaching Colombo from the N are advised to keep to seaward of **Ona Gala** (7˚00'N., 79˚50'E.). During the Southwest Monsoon, vessels are cautioned against being set to the NE onto Ona Gala.

Kelani Gala, a narrow bank with a least depth of 16.5m, lies with its S end about 1.8 miles WNW of Galboka Point.

Pala Gala, also known as Tartar Rock, is a pinnacle rock with a depth of 5.8m, nearly 0.5 mile NW of Galbokka Point. It is steep-to and never breaks.

Galua, also known as Drunken Sailor Rock, has a least depth of 1.2m, about 0.4 mile SW of Golbakka Point. The shoal consists of two rocky heads over which the sea breaks during the Southwest Monsoon. A red conical buoy is moored about 0.2 mile W of the W rocky head.

## Colombo to Beruwala Point

**4.17** The coast between **Mount Lavinia** (6˚50'N., 79˚52'E.), described with Colombo Harbor in paragraph 4.16, and Beruwala Point, about 23 miles S, is formed by a straight sandy beach with dense groves of coconut palms, rising to a uniform height of 26m behind it. The hinterland is densely wooded and there are numerous towns and villages.

The coastal railroad runs along the coast; the railroad stations and the steel bridges which span the entrances of rivers, lagoons, and lakes are usually visible from seaward. From a distance of about 4 miles offshore there are no conspicuous landmarks along this stretch of coast.

### COLOMBO PORT SIGNALS

| Day | Night | Meaning |
|---|---|---|
| Red ball | Fixed red light. | Hoisted at the pilot station flagstaff when vessels are required to run out extra mooring lines to the buoys and to prepare a second anchor for letting go. |
| Flags UM | Four red lights vertically disposed. | Hoisted at the pilot station flagstaff when weather conditions are such as to prevent the pilot boarding vessels outside the harbor. Hoisted by a vessel indicates that: |
| Flags IT | Three red lights vertically disposed, 2m apart, hoisted where best seen. | Vessel is on fire. Attention can be called to this signal by a continuous sounding with any fog signaling apparatus. |
| Flag G | Two red lights vertically disposed. | A pilot is required. |
| Flags POL | White, red, and white lights vertically disposed. | The police are required. |
| Flag W | Red, white and red lights vertically disposed. | The port surgeon is required. |

## COLOMBO PORT SIGNALS

| Day | Night | Meaning |
|---|---|---|
| Flags WEL | Three white lights vertically disposed. | Empty lighters are wanted. |
| Flags CWF | Green, white, green lights vertically disposed. | Cargo is wanted. |
| Flag Q | Red and white lights vertically disposed. | The vessel has not yet received pratique. |
| House flag under ensign at stern | White light under stern light. | Restricted pratique has been granted. |
| Flags QQQ | Three green lights vertically disposed. | Vessel is infected. |
| Flags ALR | Two green lights vertically disposed. | Ambulance launch is wanted. |
| Flags MLJ | White, green, white lights vertically disposed. | Passenger launch is wanted. |
| Flag B | One red light. | Vessel has explosive cargo onboard or is taking in bunker fuel. |
| Flags PCT | — | Port (Cargo) Corporation tug is wanted. |
| Flags PCS | Two white lights vertically disposed. | Port (Cargo) Superintendent is wanted. |
| Flags CTO | — | Coal Superintendent is wanted. |
| Flags TCW | — | Tally Clerks are wanted. |
| Flags YJL | — | Vessel requires water. |
| Flags GOU | — | Vessel or cargo is being fumigated. |

A narrow bank, with depths of less than 1.8m, runs parallel to the coast and about 0.5 mile off it, for a distance of a 2 miles S of Mount Lavinia.

Moratuwa, a fair-sized town, lies about 3.5 miles SSE of Mount Lavinia; Immanuel Church, with a red square tower and a large gray water tower, 0.5 mile SE of it, are conspicuous.

Panadura, a small town about 4 miles SSE of Moratuwa, has a lone round-topped banyan tree about 1 mile S of it.

**Gono Gala** (6˚42'N., 79˚53'E.), 4.5m high and round-topped, is the outer of two rocks; about 1 mile WSW of Panadura Station. Nilkete Rock, with a depth of 3.6m, and Po Gala, with a depth of 5m, lie about 1.3 and 1.5 miles, respectively, S of Gono Gala.

**Kaluwatte Gala** (6˚39'N., 79˚53'E.), with a depth of 9.1m and steep-to, lies about 2.5 miles offshore. Uan Gala, with a depth of 5.5m, also steep-to, lies about 0.6 mile farther SE.

**4.18 Kalutara** (6˚35'N., 79˚58'E.), an important town, straddles the Kalu Ganga near its mouth. A temple, with a conspicuous white dome, lies on the S bank of the Kalu Ganga, in Kalutara. The white dome of the temple is floodlit, and a fixed green light is shown at its top.

Bombuwala Hill, about 3.5 miles E of Kalutara, is a small range about 2 miles long, and the N of low hills behind the coast between Kalutara and Beruwala Point. Near its S end is a conspicuous flat-topped hill, 159m high.

Weragala Kanda (Weragoda Kanda), about 4 miles SSE of Kalutara, is conical, 107m high, and conspicuous. This hill is isolated and wooded except at its summit, where there is a white shrine.

Uheliya Reef, with depths of 7.3 to 9.1m, lies about 2.5 miles W of Kalutara, at the outer end of an area of shoals and uneven ground.

Pittaniya Rock, with a depth of 5.5m, lies 1.3 miles WSW of the temple at Kalutara. Pallaipara Rock, with a depth of 2.7m, and Modara Muduwa Rock, lie about 0.5 mile and 1 mile, respectively, S of Pittaniya Rock.

**Anchorage.—**Small vessels may anchor off Kalutara, in a depth of about 10m; local knowledge is necessary. This anchorage should be approached by passing between Uheliya Reef and Pittaniya Rock.

Maggona Point, about 5 miles S of Kalutara, is a small rocky headland, about 9m high. Tria Gala, 1.5m high and steep-to, lies about 1 mile NW of Maggona Point. A 6.4m shoal lies about 1.8 miles NW of Tria Gala, at the outer end of foul ground; a rock, which always breaks, lies about 0.4 mile S of Tria Gala.

**4.19 Beruwala Point** (6˚28'N., 79˚58'E.), with a rocky promontory at its N end, forms the W side of a small bay. Yakada Gala, 2.4m high, about 0.5 mile W of the point, is the outermost rocky islet off Beruwala Point.

Prompt Rock, with a depth of 8.2m, and Madda Gala, with a depth of 5.9m, lie about 3 miles and 2.7 miles, respectively, WNW of Beruwala Point; both dangers are steep-to and soundings give no warning of approach to them. The above dangers are the outermost of numerous dangers lying W and NW of Beruwala Point.

Welmaduwa Island, about 0.7 mile SSW of Beruwala Point, is covered with tall coconut palms, and its highest part is a rocky cliff, 14m high, on its seaward side. Vessels navigating along the coast should give the island a berth of 4 miles.

Barberyn Light is shown from a white tower on the summit of Welmadura Island.

Good radar returns have been reported from Barberyn Light and Beruwala Point at 15 and 17 miles, respectively.

**Anchorage.—**It is not advisable to anchor off Beruwala Point in depths less than 11m because of the off-lying dangers and the swell that is usually experienced.

## Beruwala Point to Galle Harbor

**4.20** Between the entrance of **Bentota Ganga** (6˚26'N., 79˚59'E.) and Galle Harbor, about 29 miles SSE, vessels should remain in depths over 37m, or about 6 miles from the coast, although at this distance there are few landmarks from which to fix position. The most prominent landmarks lying near the coast are the monument on **Galboda Kanda** (6˚24'N., 80˚01'E.) in the afternoon and **Waal Islet** (6˚08'N., 80˚06'E.). However, it was reported that the coast between Beruwala Point and Balapitiya Point, 13 miles SSE, gives good radar image up to 35 miles.

If visible, **Hiniduma Kanda** (6˚20'N., 80˚18'E.) is conspicuous, and **Hindelnattu** (6˚07'N., 80˚24'E.), about 12.5 miles ENE of Point de Galle, though its summit is poorly defined, forms a valuable mark when E of Waal Islet.

**Yakinigeduwa** (Katakurundu) (5˚58'N., 80˚23'E.), an islet which when seen from the W appears as a tuft rising over the extreme point of low land E of Galle, also forms a valuable mark.

**Godagala Point** (6˚25'N., 80˚00'E.) is a dark-colored rocky headland, about 9.1m high, which is not very conspicuous; a rest house lying among some trees on the coast, about 0.5 mile N, is fairly conspicuous.

Handram Gala, a black bare rock, 2.4m high, lies about 0.5 mile WNW of the point. Deba Gala, a boulder with depths of 2.7m, lies about 0.5 mile WSW of Godagala Point, with other dangers S and SE of it.

Galboda Kanda, about 2 miles SSE of Godagala Point, is a flat-topped hill, 47m high, with a temple and white monument on its summit. It is conspicuous from seaward and visible 10 miles in clear weather.

Kaikawalagala Point is a low rocky headland, about 2.5 miles SSE of Godagala Point. Dodampara Rocks, two small rocks, 0.9m high, are part of a group of rocks and reefs lying within 0.8 mile of Kaikawalagala Point.

Sabungala Point (Babungala Point), about 0.5 mile farther S, is a reddish point, about 8m high. A ridge, with depths of 6.4 to 9.1m, extends from about 1 mile W of the point, S for about 2 miles, parallel to the coast, about 1.5 miles offshore.

Arangala Point, about 0.8 mile SSE of Sabungala Point, is about 12m high and rocky. A small hill, 33m high, about 0.5 mile E of the point, is surmounted by a temple and monument; it is obscured by trees from some directions.

Duwemodera Hill, 53m high, about 1 mile E of Arangala Point, is isolated and fairly conspicuous, with a ridge extending E. Pelagas Kanda, about 1.8 miles farther E, is 71m high and flat-topped with a single tree on its summit. **Ahungala Point** (6˚19'N., 80˚02'E.) is 43m high, cliffy, and covered with coconut palms. Kola Islet, with a few palm trees on it, lies close S of the point. A small rock, awash and steep-to, lies 1.5 miles NW of the point. A ridge, with a least depth of 6.4m, lies about 1 mile offshore, and extends about 1 mile S of the rock.

Balapitiya Point, about 2.8 miles S of Ahungala Point, is a low, flat, double point, covered with coconut trees; a large boulder, 10.7m high, lies on the coast, nearly 1 mile N of the point. Foul ground extends W and N of the point. Depths of 5.9 to 8.2m lie about 1 mile offshore for a distance of about 1.5 miles S of the point.

**4.21** **Akurala Point** (6˚12'N., 80˚03'E.) has been reported to give good radar returns at 14 miles. About 0.5 mile N of the point, the coastal belt of coconut trees is broken by a wide gap, clearly visible from seaward; Delmar (Galgoda), a 37m hill with a single tree on its summit, can be seen through the gap.

Passi Rock, about 1 mile W of Akurala Point, is dark-colored and consists of five heads; the sea always breaks over one of the heads, which is about 0.6m high. The rock should be given a wide berth, as the bottom is irregular for about 0.4 mile W of it.

Foul ground extends up to 1 mile offshore between Akurala Point and Telwatta Point, about 3 miles SSE. Foul ground extends 0.8 mile offshore between Akurala Point and Patingala Point, 2 miles NNW. The latter point consists of several large rocks, and has the ruins of a temple on it. Debaha Rock, 1.2m high, lies about 0.4 mile W of Telwatta Point.

**Hikkaduwa Point** (6˚08'N., 80˚06'E.) is low, flat, and covered with coconut trees, among which a rest house is almost hidden. Waal Islet, 9.1m high, is a large group of flat-topped rocks, lying on the outer edge of the foul ground extending about 0.4 mile W from the point. The islet is fairly conspicuous from seaward.

Hikkaduwa Gala is a rock with a depth of less than 1.8m, on a shoal about 1.3 miles S of Hikkaduwa Point

Dodanduwa, about 2.3 miles SE of Hikkaduwa Point, is a low point terminating in two islets; Manda Gala, 3.6m high, the outer islet, continues seaward to form a rocky point and has a clump of coconut trees near its shoreward end which serves to identify it.

The coast between Dodanduwa and Point de Galle, about 7.5 miles SE, is formed of a brown sandy beach with rocky projections at intervals, and backed by low hills rising to elevations of 45 to 70m about 0.5 mile inland. The coastline is thickly planted with coconut trees and the hillsides are densely wooded. Within or on the edge of foul ground fronting this coast are several rocks above-water, but none are particularly conspicuous.

Goda Gala, a rocky patch with a depth of 8.2m, lies about 1.5 miles SW of Dodanduwa Point.

**Caution.—**An 18.3m patch was reported (1944) to lie about 13.5 miles W of Dodanduwa Point.

**4.22** **Bataina Gala** (6˚02'N., 80˚10'E.), about 3 miles NW of Point Galle, is a rocky bluff, 14m high, at the S entrance of the Gin Ganga. Pedruana Gala, two rocks close together, lie about 0.4 mile S of Bataina Gala; the inner rock is 1.8m high.

**Mada Gala** (6˚02'N., 80˚09'E.), about 2 miles SW of Bataina Gala, has depths of less than 1.8m is steep-to, and lies near the W end of a bank with depths of less than 18.3m.

Alu Gala, about 1.3 miles W of Point de Galle, is 0.9 high and steep-to. Ala Gala, about 1.5 miles farther W, is a rock with a depth of less than 1.8m, marked by breakers during both monsoons, and should be given a berth of at least 0.3 mile. A dangerous wreck lies on the E side of Ala Gala.

A government hospital, a long two-storied building, painted light buff, with pillared verandahs, is conspicuous on the coast

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about 1.3 miles NW of Point de Galle. The Public Works Department bungalow, painted white, lies about 0.7 mile farther WNW on the top of Nindan Godella, a rocky projection, 5.5m high. A road bridge crosses the entrance of a lake about midway between the two buildings.

## Galle Harbor (6˚01'N., 80˚13'E.)

World Port Index No. 49250

**4.23** Galle Harbor is entered between Point de Galle and Watering Point, about 1 mile ESE. Point de Galle is the S extremity of a peninsula projecting about 0.5 mile S from the adjoining coast, and forming the W side of the harbor. The town of Galle is built on the S part of the peninsula and is surrounded by fortifications; it is joined to the mainland by a low flat isthmus. There are coconut palms and other trees among the houses, but the W side of the peninsula is clear and covered by grass.

The harbor is approached through Western Channel, Central Channel, and Eastern Channel. Western Channel is unmarked and used by local craft only. Dredging of the channel to the harbor N of Gibbett Island to a depth of 9.7m was completed in 1984.

**Winds—Weather.—**Winds from the W and NW predominate from April to November; winds from the E and NE predominate from December to March.

During the months of May and June, very disturbed conditions, sometimes lasting for 3 days, may be experienced in the harbor, accompanied by swells up to 4.3m high.

The climate in Galle is hot and humid in March and April before the Southwest Monsoon breaks.

**Tides—Currents.—**Tides the tidal rise at Galle is 0.6m at MHWS, and 0.4m at MHWN.

During the Southwest Monsoon, the current sets E along the coast, and during the Northeast Monsoon in the opposite direction.

**Depths—Limitations.—**The central channel has depths of 12.8 to 16.5m in its outer part, and a depth of 11m in its narrowest part, about 0.4 mile E of Point de Galle. The S part of this channel had been swept to a depth of 9.1m; the swept depth decreases N of Gibbet Island to 6.1m. In 1980, pending further dredging, a channel draft limitation of 5.5m was in force.

Eastern Channel has a least depth of 11.9m in the fairway as far as its junction with Central Channel.

The piers on the NE side of Galle each have a depth of 1.8m for about 30m from the outer end. An artificial harbor enclosed by two breakwaters is situated N of **Gibbet Island** (6˚02'N., 80˚14'E.); in 1984 it was dredged to a depth of 8.8m. Closenburg Pier, which fronts the N side of Gibbet Island, is 427m long and can accommodate vessels with a draft of 7.9m. The N section of this harbor is a fishing port providing a pier where vessels with drafts to 3m can berth. A rocky spit, with depths from 2.5m to 5m, extends 183m SW from the root of the breakwater which extends WNW from Gibbet Island; about 0.2 mile W of the head of this breakwater there are depths of 6.2m.

Galu Gala, a bank with a least depth of 33m and frequented by fishermen, lies about 3 miles SW of Point de Galle in the approach to Galle Harbor.

Kadda Rocks, three shoal patches, lie along the W side of the central channel, between 0.6 and 0.8 mile SSE of Point de Galle. Outer Kadda Rock and Inner Kadda Rock have least depths of 3.7m, and Middle Kadda Rock has a least depth of 3.2m. During the Southwest Monsoon, the sea breaks heavily over the entire length of these rocks, but during the Northeast Monsoon the water over them is seldom disturbed.

Sealark Rock, with a depth of 6.4m, lies on the W side of the channel, about 0.5 mile SSE of Point de Galle Light. It is marked on its S side by a black and white checkered buoy.

Secundra Rock, with a least depth of 9.1m, lies on the E side of the channel, about 0.8 mile SSE of Point de Galle Light. A red conical buoy is moored close SW of it.

Polkote Gala, a 0.9m patch on which the sea breaks during the Southwest Monsoon, lies about 0.5 mile SE of Point de Galle Light; a black and white checkered buoy is moored SE of the rock.

Belikatu Wawa, a 3.7m patch, lies on the W side of Central Channel, about 0.2 mile E of Point de Galle Light; it is marked NE by a black and white checkered buoy.

Matte Mada, a shoal with three heads and a least depth of 3.2m, lies on the E side of the channel, about 0.1 mile E of Belikatu Wawa. It is marked W by a red conical buoy, and the sea breaks over it during the Southwest Monsoon.

Welihukka, a rock patch with a least depth of 0.9m, lies about 183m E of the fortifications on the E side of the town abreast Sailor's Bastion; black and white checkered buoys are moored off its N and S ends.

Katta Gala has a least depth of 2.4m over a head about 0.5 mile ENE of Point de Galle Light. Outer Katta, an 6.1m patch, lies about 183m SSW of this head, and is marked on its W edge by a red buoy. Inner Katta Buoy, a red buoy, is moored about 137m NW of the head.

In 1982, a stranded wreck lay 183m W of Katta Gala; work on its removal was in progress. In 1986, a small part of the superstructure was visible at LW. The wreck is marked on its W side by three small unpainted can buoys

Eastern Channel is entered between **Unawatuna Point** (6˚00'N., 80˚15'E.) and Alut Ground, with a least depth of 11.4m, 0.7 mile SSW of Watering Point.

Gal Pare, consisting of several heads with a least depth of 7.8m, lies on the SW side of the channel, about 0.5 mile WSW of Watering Point. The shoal is marked on its E side by a black and white checkered buoy.

Bloomfield Rock, with a least depth of 7.8m, lies close NW of Gal Pare, on the SW side of Eastern Channel and also on the E side of Central Channel. It is marked on its N side by a buoy painted in black and white bands, and surmounted by a staff and triangle.

Imbu Ranne Gala, consisting of several heads, has a least depth of 6.4m about 0.3 mile WNW of Watering Point. A spherical buoy, painted in red and white bands, is moored about 137m SSE of the S head, and a black and white checkered buoy is moored close E of the N head. Both buoys are removed during the Southwest Monsoon.

Diya Mudawa, a 4.9m shoal, on which the sea breaks during the Southwest Monsoon, lies on the NE side of the channel, about 0.2 mile NW of Imbu Ranne Gala.

**Aspect.—**Inland, the country is generally flat, but becomes more hilly N. Among these hills is Kurundu Kanda, 90m high and flat-topped, about 3.5 miles NNE of Point de Galle and Hiniduma Kanda (Haycock), about 16 miles farther NNE. On clear mornings in the early months of the year.

Adam's Peak, previously described in paragraph 4.1, may be seen a little to the E of Hiniduma Kanda, previously described in paragraph 4.2, appearing as a sharp regular cone flanked by lesser peaks appearing as though on the shoulders of its slopes.

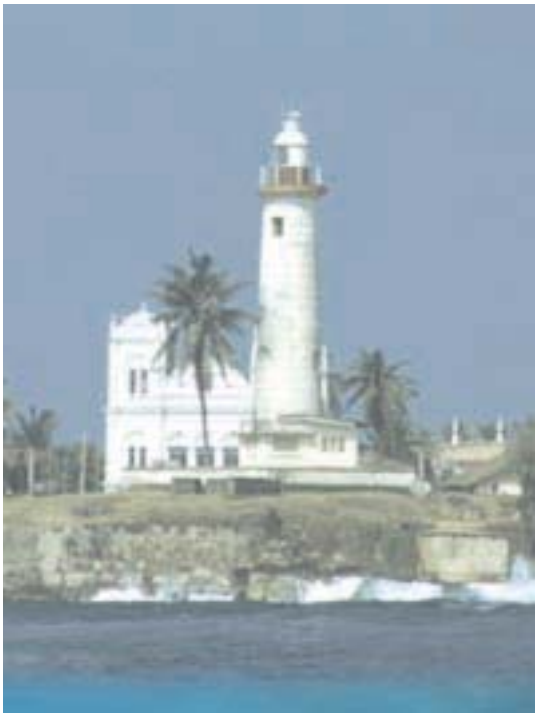

*Photo Courtesy of Sri Lanka Maritime Achaeological Unit*

**Point de Galle Light**

Approaching Galle, Point de Galle Light and Edwards Pillar form good landmarks. **Point de Galle Light** (6˚01'N., 80˚13'E.) is shown from a round tower on Utrecht Bastion, at the SE extremity of the peninsula. Galle Tower (Edwards Pillar), about 1.5 miles farther E, is a black and white tower, 15m high, lying on the summit of Rumassala Kanda, a large wooded hill, 75m high, sloping down to the sea to form the E side of Galle Harbor. In 1978, a conspicuous stranded wreck lay 2.5 miles W of Point de Galle Light on the E side of Ala Gala.

The following landmarks are on the W side of the harbor within the town of Galle:

1. The mosque, a large white two-storied building with two small domes and some low minarets at the SE corner of the peninsula.
2. All Saint's Church, with a square tower, surmounted by a red four-sided pointed roof and a large weather vane in the middle of the town.
3. The clock tower, a square stone structure with an elevation of 43m

The Roman Catholic Chapel, about 0.8 mile WNW of Point de Galle, is a large conspicuous building, painted white with two towers on its front facing the sea and a dome behind. The chapel lies on a hill and has an elevation of 41m.

To the N of the town are extensive low, wooded hills. The only ones likely to be recognized are **Residency Hill** (6˚02'N., 80˚13'E.), 62m high, and Hirimbure Kanda, 76m high, about 2 miles farther N.

Good radar returns have been reported from Point de Galle and Point de Galle Light, at 19 and 18 miles, respectively.

Central Channel and Eastern Channel are buoyed. When vessels are leaving the harbor at night, certain buoys are lighted as required by the port authorities.

A red and white checkered buoy, surmounted by a staff and cage, is moored nearly 1 mile S of Point de Galle Light, and marks the W side of the entrance to Central Channel. Point de Galle Light is shown on Utrecht Bastion at the SE extremity of the peninsula.

If this buoy is not in position a signal to that effect is made from the signal station. Under no circumstances should implicit reliance be placed on the buoys being in their charted positions.

**Pilotage.—**Pilotage is compulsory for all vessels unless exempted by the authority of the Master Attendant, Colombo, represented at Galle by the Assistant Master Attendant, who is in charge of the port and is also pilot at Galle. The latter is provided with a pilot launch painted white with "Galle Pilot" painted in black letters on the bow, and a mooring boat. The pilot can be contacted by VHF, but is not available at night.

The usual signal for a pilot should be displayed by vessels approaching the port; vessels should await the arrival of the pilot close to the buoy at the W entrance of Central Channel. A pilot ladder on the lee side, and two manropes of at least 3 inch rope with the ends free, are required to be provided. Vessels are not taken into the harbor at night, but should anchor at the outer anchorage until daylight. Vessels can be taken out of the harbor at night in good weather.

**Regulations.—**Vessels without qualified medical officers may not have communication with the shore, nor may any person, except the pilot, board them until permission is obtained from the health authorities; in no circumstances may cases of infectious disease be landed without the consent of the Government Health Officer.

The regulations governing vessels having plague, cholera, or yellow fever on board, and the signals required for all vessels arriving off the port, are the same as those for Colombo.

**Anchorage.—**During the Southwest Monsoon, the best berth is in 28m, sand, with Pointe de Galle Light bearing 012˚, and Ereminia Galla Point, a large black rock, 6.1m high, with a pointed top, about 1 mile ESE of Unawatuna Point, bearing 094˚.

During the Northeast Monsoon, vessels usually anchor in the outer anchorages, in a depth of 18.3m, with Point de Galle Light bearing 335˚, and with Kota Gala, a black rock close SE

of Unawatuna Point, in line bearing 101˚ with Ereminia Gala Point.

During the Northeast Monsoon, in the inner anchorages there are eight anchorage berths, one of which will accommodate a vessel up to 121.9m in length and 6.4m draft.

During the Southwest Monsoon, there are six anchorage berths, one of which will accommodate a vessel 145m in length and 7.6m draft.

In 1977, there were two inner anchor berths for use by vessels with a draft between 7.9 and 7m in the Northeast Monsoon, and between 7.6 and 6.4m in the Southwest Monsoon. The bottom at the anchorage is sand and mud, good holding ground.

Vessels moor head and stern, using both power anchors, with their bows S and port anchors to the E. The stern moorings are laid by the pilot, some being laid as required and others kept ready with ends secured to small white conical buoys. Vessels are required to be ready to veer chain when required to do so by the port authorities, and must have their main engines ready to use at short notice.

There is also good anchorage during the Northeast Monsoon for vessels up to 152.4m in length and 9.1m draft, with Watering Point bearing 162˚, distant 0.2 mile.

Vessels should anchor well clear of Central Channel and Eastern Channel and their approaches.

**Directions.—**Vessels approaching Galle Harbor from the NW should keep Point de Galle Light bearing less than 078˚, which will lead clear of the dangers W of the point. Vessels approaching from seaward should keep the above light bearing 012˚, which leads to the outer anchorage.

Vessels entering Central Channel should pass about 0.2 mile E of the outermost buoy and follow the recommended track indicated on the chart. When Point de Galle Light is abeam, course may be shaped as required, keeping E of Capera Buoy and the similar buoy 183m N of it, and W of the Outer and Inner Katta Buoys.

Before the anchorage is reached speed should be reduced to the minimum consistent with retaining command of the vessel.

A vessel entering by Eastern Channel should take care to avoid the dangers and foul ground extending from Unawatuna Point to Goda Gala (Bellows Reef), a rocky patch, with a depth of 1.8m, over which the sea always breaks, about 0.8 mile SE. Then bring the N end of Kachcheri, a conspicuous buff-colored building about 0.2 mile N of Utrecht Bastion, in line with the Roman Catholic Chapel bearing 322˚. Steer on this range until Central Channel is reached, then follow the directions for that channel.

## Galle Harbor to Weligama Bay

**4.24** The coast between **Unawatuna Point** (6˚00'N., 80˚15'E.) and Eriminia Gala Point, about 1 mile ESE, recedes to form a small sandy bay. A large white house is conspicuous about 0.5 mile ENE of Unawatuna Point.

Between Ereminia Gala Point and Yakinigeduwa (Katukunrund Islet), about 7.5 miles ESE, the coast consists of an irregular sandy beach backed by a thick belt of coconut trees through which runs the railroad between Galle and **Matara** (5˚56'N., 80˚33'E.). The shore is fronted by reefs and foul ground, on which the sea always breaks, extending up to 0.4 mile offshore. The depths are irregular outside the breakers, but there are apparently no off-lying dangers except for a 9.1m patch, about 3 miles WNW of Yakinigeduwa.

The railway station at Talpe lies about 0.8 mile E of Ereminia Gala Point. Malagoda Kanda, a conical hill, 93m high, lies about 1.3 miles N of Talpe; a conspicuous tree is on its summit, and the summit of a shoulder extending SW is also prominent.

Kotavanni, a solitary black rock, 15.2m high, about 3.5 miles ESE of Talpe and fairly prominent, helps to identify the outlet of the Koggala Lake, about 0.4 mile farther E. Debaha Rock, 0.9m high, lies about 0.8 mile SE of the lake outlet.

About 2 miles N of Koggala Lake, the land begins to rise, sloping gradually to Hindelunattu, 410m high, about 8 miles NNE of the lake. This mountain forms a good landmark all around the S and SW coasts; it is conspicuous with its large rounded summit and a small pointed shoulder on its NE flank.

**Yakinigeduwa** (Katukurundu) (5˚58'N., 80˚23'E.), an islet, with steep, cliffy sides, is joined to the mainland by a causeway. Trees on the islet are 40m high, with tufted tops. A rocky reef, with some above-water heads, extends about 0.2 mile SE from the islet. A prominent reddish cliff, 21 to 30m high, projects from the coast about 0.6 mile W of the islet.

The coast between Yakinigeduwa and Rassamunai Point, about 2.5 miles E, consists of a sandy beach backed by coconut palms, until within 0.5 mile of Rassamunai Point where the land rises to terminate in red cliffs which form a prominent mark.

## Weligama Bay (5˚57'N., 80˚26'E.)

World Port Index No. 49260

**4.25** Weligama Bay, entered between Rassamunai Point and Mirissa Point, about 1.5 miles ESE, is encumbered with numerous islets and dangers; a SW swell may break on any shoal patch with a depth of 5.5m or less.

Rassamunai Point consists of red cliffs extending about 0.5 mile W and 0.3 mile N of it. Good radar returns have been reported from the point at 16 miles. The town of Weligama, somewhat scattered, lies on the NW side of the bay.

Mirissa Point forms the W end of a fairly high peninsula partly covered with coconut palms.

The W and N shores of the bay to the entrance of Polatu Ganga is a sandy beach backed by coconut palms. The land at the head of the bay is very low and not visible from the bay, but hilly country about 3 miles inland starts to rise to Hindelunattu, about 6 miles farther NNW, and is visible over the coconut palms. Gongola, 1,386m high, about 30 miles NNE of the bay, is visible in clear weather above the intervening hills.

On the E shore of the bay, a sandy bight lies between Mirissa Point and Wera Point, 27m high and cliffy, about 0.8 mile NE. The village of Mirissa lies at the head of this bight. The shore between Wera Point and the S entrance of Polatu Ganga is mainly composed of moderately high, red cliffs.

Yala Rock, with a least depth of 2.7m and steep-to, lies about 0.5 mile SW of Rassamunai Point.

Pares Shoal, with a depth of 4.5m, lies about 0.5 mile ESE of Rassamunai Point. The sea always breaks on the reef fringing the point.

Sealark Rock, with a depth of 8.7m, lies about 0.2 mile E of Pares Shoal, and Kada Rock, with a depth of 4.5m, lies about 0.2 mile farther SE, near the middle of the entrance to the bay.

Karamas Rock, with a depth of 6.9m, lies about 0.4 mile N of Kada Rock.

On the E side of the entrance, between Mirissa Point and Kola Point, about 0.7 mile ESE, the sea always breaks on the foul ground extending up to 0.2 mile offshore. Palapana Gala, shoal rocky ground with a least depth of 6.9m, lies about 0.4 mile S of Mirissa Point.

Diyumba Alut Rock, with a depth of 5m and on which the sea occasionally breaks, lies about 0.3 mile W of Mirissa Point, and about 0.4 mile E of Kada Rock.

Diyumba Rocks, with a least depth of 2.3m, lie about 0.5 mile N of Mirissa Point.

Prompt Shoal, with a depth of 5m, lies near the middle of the bay, about 1 mile NNW of Mirissa Point. Puhamodal Rock, with a least depth of 2.7m, lies about 0.2 mile farther NNW.

Gan Island, 12.5m high, about 0.4 mile W of Parei Duwa, is not easily distinguished from the shore W because of the coconut palms on it.

Ruwana Rock, 1.8m high, lies about 0.6 mile NE off Rassamunai Point; a rocky head, awash, lies close E.

Parei Duwa (Pigeon Island), about 1.3 miles NE of Rassamunai Point and about 0.2 mile off the head of the bay, is 16.1m high, rocky and covered with scrub; there are no palm trees on it.

**Anchorage.—**Anchorage can be taken, in 9.1 to 11m, sand and rock, SE of Ruwana Rock, or in similar depths in the SE part of the bay, off the village of Mirissa. A good berth off the village of Mirissa is with the red cliff on Kada Point, the S entrance point of Polatu Ganga, bearing 039˚, and Ruwana Rock bearing 294˚. Although no reliable information has been obtained it is probable that the anchorage SE of Ruwana Rock can be used during the Southwest Monsoon.

**Directions.—**Vessels approaching from the W should pass about 0.8 mile S of Rassamunai Point to avoid Yala Rock. Vessels from the E should pass S of Prinz Heinrich Patch, which lies about 1.5 miles SE of Mirissa Point. Proceed into Weligama Bay with Parei Duwa (Pigeon Island) in line bearing 352˚, with a gap in the hills inland. This course leads between Kada Rock and Diyumba Alut Rock. Course may be altered ENE for the anchorage off Mirissa when clear of Diyumba Alut Rock.

If proceeding to the anchorage SE of Ruwana Rock, enter on the same range and pass E and N of Karamas Rock.

## Weligama Bay to Dondra Head

**4.26** The coast between Mirissa Point and Galgodiya (Chula Lanka), about 5 miles E, is densely wooded with coconut palms and appears moderately high. Several dagobas (shrines) on this coast show up well when light conditions are favorable.

The bottom is rocky and uneven in depths of less 9.1m off this stretch of coast. Vessels should ordinarily keep in depths over 37m, and pass about 1.5 miles S of Veragalle Point.

**Tides—Currents.—**Currents are irregular within 2 miles of this coast and W of Dondra Head. There is often an indraft into Matara Bay.

Prinz Heinrich Patch, with a least depth of 7.3m, lies about 1.5 miles SE of Mirissa Point. Galgodiyana in line bearing 074˚ with Brown's Hill, 1.8 miles ENE, leads S of the patch. Mirissa Point in line bearing 347˚ with Hindelunattu, leads W of Prinz Heinrich Patch.

A rocky ledge, 3m high at its highest point, extends about 183m offshore from Veragalle Point (5˚56'N., 80˚27'E.), about 0.5 mile E of Kola Point.

Talarambee Point, about 0.4 mile farther E, is rocky and elevated, with a dagoba, 36.5m high, showing above the tree tops close behind it. Kalcotta Rocks, three heads, 0.3 to 0.6m high, lie about 0.2 mile S of Talarambee Point.

Tanana Rocks, 0.9 to 1.5m high, about 1 mile farther E, lie about 0.2 mile S of Atalahua Point, a low point.

Moolkalle Point, about 1 mile E of Atalahua Point, is rocky and has a dagoba on it; it contrasts with its surroundings as it is covered with low scrubs instead of coconut palms.

**4.27 Galgodiyana** (Chula Lanka) (5˚56'N., 80˚32'E.), an islet 22m high and covered with coconut palms, is connected to the coast by a causeway in bad repair. Several rocks, two of which are about 2m high, lie about 0.3 mile S of the islet.

Matara Bay, formed by the curving coastline between Galgodiyana and Dondra Head, about 3.3 miles E, is entirely open S and mostly foul.

Madumora Reef, about 0.8 mile SE of Galgodiyana, has depths of less than 1.8m over its N edge, and a least depth of 2.7m near its S edge. Sleet Rock, about 1.5 miles farther ESE, has a depth of 10m and is the outermost danger in the E part of the bay.

Matara, on the NW side of the bay, is a town of considerable size and importance, ranking next to Galle in the Southern Provinces. The town is not easily seen from seaward, but the clock tower shows up well in favorable light between the bearings of 347˚ and 302˚.

An islet, 12.5m high, just E of the clock tower, is connected to the shore by a causeway on which the sea generally breaks. Some conspicuous red cliffs, the highest 37m high, lie about 1 mile farther E. Brown's Hill, 52m high and identified by a red triangular patch on its SW slope, rises behind the red cliffs.

## Dondra Head to Hambantota Point

**4.28 Dondra Head** (5˚55'N., 80˚36'E.), the S extremity of Sri Lanka, is low with a grove of tall coconut trees at its W extremity. The headland appears as an islet, although it is connected to the mainland. Dondra Head Light is shown from a white octagonal tower, 49m high, near the E point of Dondra Head. A white pyramidal beacon, with an elevation of 13.7m, lies about 0.5 mile NE of the light.

Dondra Head has been reported to give good radar responses at 19 miles.

An IMO-adopted traffic scheme has been established off Dondra Head.

The coast between Dondra Head and Hambantota Point, about 34 miles ENE, is generally low and has sandy and rocky stretches; there are no dangers outside a distance of 1.3 miles offshore. The W part, between Dondra Head and Nilewelli Point, about 8 miles ENE, has a somewhat elevated appearance due to the low-lying parts being covered with coconut palms.

From Nilewelli Point to Tangalla Point, about 6 miles NE, the coast becomes generally rocky, fairly high, and indented by bays. To the E of the latter point, it again becomes low, sandy, and backed by coconut palms as far as Kalametiya Point, nearly 9 miles ENE. Then to Hambantota Point, about 12 miles ENE, it is low, barren, and sandy, and is interrupted by only a few cliffy points.

The coast between Dondra Head and Gandura Point, a rocky point about 1.8 miles ENE, consists of rocky cliffs which are about 30m high in one part. Gandura Bay lies between the latter point and **Kottagoda Point** (5˚57'N., 80˚38'E.), a rocky point with boulders.

**Anchorage.—**There is good anchorage, in 18.3m, sand in the W part of Gandura Bay, with Gandura Point bearing 248˚, about 0.6 mile. The anchorage is not protected from the swell.

Etawa Reef, with a least depth of 3.6m, lies between 0.5 and 1 mile E of Kottagoda Point. Bambri Rocks, 1.2m high, lies about 0.5 mile farther NE.

**4.29 Nilewelli Point** (5˚57'N., 80˚43'E.) is rocky and steep-to, with a clump of coconut trees, 24m high, on it. The point is connected to the mainland by a narrow strip of sand over which the surf washes in a moderate swell; when seen from the E or W, it appears as an islet. A white dagoba lies 1 mile N of the point.

Walakanda (Waulugala), a hill with a bare summit, 169m high, about 3.3 miles NNW of Nilewelli Point, forms a good mark for vessels coasting, but shows up less to vessels farther offshore, because of the other hills behind it.

Nilewelli Bay lies between Nilewelli Point and the S extremity of a rocky peninsula, about 1 mile NE. Two detached above-water rocks lie off the S extremity of the peninsula.

Anchorage can be obtained in the bay, in about 16m, sand, about 0.4 mile NE of Nilewelli Point.

Mahawelli Bay, about 2.5 miles NE of Nilewelli Point, lies immediately N of Mahawelli Point. The latter point is the E extremity of a steep and rocky peninsula, moderately high, and nearly bare of trees. Mahawelli Rock, awash, lies about 0.2 mile E of the point. Middle Rock, nearly awash and always breaking, lies about 0.5 mile farther ENE. Unaeria Rocks, consisting of four distinct heads, 0.3 to 1.8m high, lie close E of Middle Rock.

Anchorage, with local knowledge, can be taken, in about 11m, sand, close N of Mahawelli Rock. The approach to the anchorage is made between Mahawelli and Middle Rocks.

Tangalle Bay (Tangalla Bay) lies between **Tangalle Point** (6˚01'N., 80˚48'E.) and Rekawa Point, 15m high, rocky and barren, about 4 miles ENE. The town of Tangalle (Tangalla), with an old conspicuous white fort, lies on Tangalle Point. Rocky reef, just below-water, fronts most of the shore of the bay.

Two radio masts, marked by red obstruction lights, are situated about 8 miles NNW of Tangalle.

Good radar returns have been reported from Tangalle Point at 9 miles.

Tangalle Rock, awash and steep-to on its S and E sides, lies about 1 mile ESE of Tangalle Point. Ma Rock, with a depth of 4.6m, and Kadul Rock, with a depth of 3.2m, lie about 0.4 mile NE and 0.2 mile NNW, respectively.

To enter Tangalle Bay, pass 0.5 mile E of Tangalle Rock, then steer about 021˚ until the coconut trees on the S bank of Kirama Oya (Kunkalle Ganga) are in line, bearing 265˚, with the small white dagoba, about 0.5 mile NW of the fort. Steer on this range and anchor, in 9.1 to 11m, with Tangalle Rock bearing between 167˚ and 149˚

**4.30 Kahandawa Rocks** (6˚03'N., 80˚54'E.), 0.6m high, lies about 0.8 mile S of Kahandawa Point. A rocky head, with a depth of 8.7m, lies about 0.3 mile S of the rocks.

**Kalametiya Point** (6˚04'N., 80˚56'E.), moderately high and rocky, terminates in a large boulder, from which a chain of rocky islets extends SE to Watta Rock, a barren islet, 7m high and prominent due to the light color of its upper part. Rocky patches, with depths of 7.3 to 9.1m, lie within 0.5 mile SW, S, and E of Watta Rock.

Kalametiya Rock, of which a small pinnacle just shows, lies about 0.4 mile E of Kalametiya Point.

Anchorage, with local knowledge, can be obtained, in about 11m, sand and rock, from 0.3 to 0.5 mile ENE of Watta Rock.

Ulandhe Point, about 2.8 miles ENE of Kalametiya Point, is steep with red cliffs, and a summit, 18m high, behind it.

Swell Rock, with a depth of 6.9m and upon which the sea breaks in a moderate swell, lies 1 mile SW of Ulandhe Point.

Rattan Point is similar to and about 0.8 mile NE of Ulandhe Point, from which it is separated by two sandy bights. Rocks extend nearly 0.4 mile offshore between the points.

Rattan Point has been reported to give good radar responses at 18 miles.

The mouth of the Walawe Ganga, about 1.8 miles E of Rattan Point, is usually a small opening in the sandy beach.

**Godawaye Point** (6˚06'N., 80˚03'E.), 15m high and rocky, has a white dagoba within the point and a reef awash close E.

Ibha Rock, with a depth of less than 1.8m, lies about 0.8 mile SSE of Godawaye Point; it is steep-to and the sea does not always break on it.

Nehindi Rock, awash and steep-to, lies about 2 miles ESE of Godawaye Point and 1 mile offshore.

The coast between Godawaye Point and Hambantota Point, about 5 miles ENE, is a continuous stretch of sand on which a heavy surf breaks.

**4.31 Hambantota** (6˚07'N., 81˚08'E.) (World Port Index No. 49270), a town and port, lies on the W side of the bay formed between Hambantota Point and Pitawatan Point, about 1.3 miles NE. There is seldom much protection from swell in this bay as even with winds the swell sets onto the coast.

Hambantota Point is the SE extremity of a rocky promontory with red sandy soil. A bare rocky ledge extends about 137m SE of the point; the highest part of the ledge, at its outer end, is 4m high. A large white martello tower and some houses lie on the promontory; a disused light stands on its summit, about 0.2 mile W of Hambantota Point.

Good radar returns have been reported from Hambantota Point at 19 miles.

Hambantota Light was formerly shown from a square white tower on the summit of the promontory, about 0.2 mile W of Hambantota Point. Since 1977, the light has been extinguished.

**Anchorage.—**The best berth in the bay is in 10m, 0.4 mile NE of Hambantota Point.

## Hambantota to Illukatiya Point

**4.32** The coast between Hambantota and Illukatiya Point, 42 miles ENE, is sandy and barren, with points from 15 to 50m high. The land between and behind the points is low, with hills here and there which usually rise abruptly. In clear weather the mountain district of Sri Lanka will be seen in the background. The usual and recommended route for vessels proceeding along this coast is outside of **Great Basses Reef** (6˚11'N., 81˚29'E.) and Little Basses Reef to the NE, passing about 2 miles SE of the lighthouses marking the reefs upon these ridges. Care should be taken in passing Little Basses Reef, described in paragraph 4.36, where depths of less than 18.3m extend to about 3 miles ENE of the lighthouse at the E end of this reef.

**Katagarama Peak** (6˚23'N., 81˚20'E.), 425m high, is the summit of a range; it is sharp-topped when viewed from SW, but flat-topped from E or SE. Good radar returns have been reported from the peak at 37 miles.

Rocky Knob, 98m high, about 7 miles SE of Katagarama Peak, is a remarkable pillar of rock protruding from a rocky ridge.

Akasachetiya, 162m high, about 4 miles NE of Rocky Knob, is a very prominent mass of bare rock.

Open anchorage, over a bottom of sand and rock, can be obtained off almost any part of this stretch of coast, but none of the bights afford shelter during either monsoon. During the Southwest Monsoon, however, if the wind is well to W, the sea is less disturbed off the E part of the coast. Close to the beach, there are several rocky patches, below and above-water, over which the sea breaks heavily.

## Hambantota to Butawa Point

**4.33** **Patirajja Point** (6˚10'N., 81˚14'E.), about 6.3 miles ENE of Hambantota, is reddish in color and terminates in a rocky ledge, 0.6m high. A bare sandhill lies about 0.3 mile W of the point.

Urani Point, about 3.3 miles farther ENE, may be identified by a small grove of coconut palms lying behind it; such palms are rare in this area. The village of Bundala is near this grove.

**Dorava Point** (6˚12'N., 81˚19'E.), 18m high, is bare, rocky, and easily identified.

Lansiya Rock, 6.4m high, lies 0.5 mile S of Dorava Point; foul ground extends 1 mile W of the rock.

Dorava Rock, with a least depth of 5.5m, lies about 0.8 mile SE of Dorava Point, and is the outermost off the point.

Between Dorava Point and Butawa Point, about 11.5 miles NE, sandhills and rocky formations of moderate height lie close behind the coast.

Kirindi Point, a rocky formation, lies about 1.3 miles NE of Dorava Point. Kirindi Knob, a group of boulders, 34m high, lies about 0.3 mile W of the point. From the W, it may be seen over the land inside Dorava Point, appearing as a conical summit.

A rocky ledge, with Korha Rock, 0.6m high, at its extremity, extends about 0.3 mile ESE of Kirindi Point.

The village of Kirindi lies close to the beach N of the point.

**Anchorage.—**Open anchorage can be obtained, in about 15.8m, S of Kirindi Point, rather than E of the point where there appears to be much rock. Vessels approaching the anchorage should keep Kataragama Peak well open E of Kirindi Knob, bearing about 359˚, which leads just E of Dorava Rock.

**4.34** **Palatupana Point** (6˚14'N., 81˚22'E.) is the extremity of a sandy elevation, about 2.5 miles NE of Kirindi Point.

Mutugala Point lies about 2 miles ENE of Palatupana Point, and is somewhat similar to it. The point is fronted by patches of rocky reef, and a rock, 1.8m high, lies about 91m SE of it. Shoal patches, with a depth of 6.9m over the outer one, extend about 0.5 mile S of the point.

A bushy summit, 59m high, and another, 39m high, lie about 1.3 miles NW, and 0.8 mile NNW, respectively, of Mutugala Point. The latter summit is used as a range mark for the passage inside Little Basses Ridge.

Amaduwa Point, about 2.5 miles NE of Mutugala Point, is low and rocky at its extremity. A rocky reef, its outer part awash, midway between the points, extends about 0.3 mile offshore. A rock, 5m high, lies about 0.1 mile S of Amaduwa Point.

The sandy coast between Amaduwa Point and Butawa Point, about 3.8 miles NE, forms several bights with rocks lying from 0.1 to 0.2 mile offshore. Two of these rocks, close together, the higher one 4.6m high, lie about 0.2 mile offshore. Shoal water, the outer part with a least depth of 5m, extends about 0.5 mile from the coast, about 1.5 miles NE of Amaduwa Point.

Great Basses Ridge, a steep-to and narrow rocky ridge, with depths of less than 18.3m, extends 13.8 miles ENE from a position about 3 miles S of **Urani Point** (6˚11'N., 81˚17'E.).

**Great Basses Reef** (6˚11'N., 81˚29'E.) lies on the ridge, about 2 miles from its E end; parts of the reef, which is about 0.2 mile long, are above-water.

*Photo Courtesy of Udena Atygalle, The Sunday Times (Sri Lanka)*
**Great Basses Reef Light**

Great Basses Reef Light is shown from the NE and highest part of Great Basses Reef, from a white granite tower, 38m high, with a conical top; the tower is surrounded by two galleries, one above the base and the other close under the lantern. Good radar returns have been reported from the light structure at 17 miles.

No depth of less than 12.8m has been found on Great Basses Ridge, except within 2 miles of the lighthouse, and vessels should not approach within that distance of the light in either an ENE or WSW direction.

Ship Rock, about 5.5 miles NE of Great Basses Light, has a depth of 9.1m and lies in the middle of a narrow, rocky shoal.

## Butawa Point to Illukatiya Point

**4.35 Butawa Point** (6˚19'N., 81˚29'E.) is rounded and moderately high. Butawa Rock, 1.8m high and steep-to on its SW and SE sides, lies about 0.2 mile SE of Butawa Point.

Chiddle Rock, with a depth of 9.6m and steep-to, lies about 0.4 mile SE of Butawa Rock.

Shoal and uneven depths extend up to 0.8 mile offshore between Butawa Point and Patanagala Point, about 2 miles NE. The outermost danger is a rock, with a least depth of 6.9m, about 0.8 mile SSE of Patanagala Point.

Patanagala Point is the extremity of a bare rocky hill, 42m high, and somewhat resembling a haycock. Elephant Rock, 0.6m high, lies about 0.4 mile ESE of the point.

Transit Hill, a bare, rocky elevation, with two peaks of nearly equal elevation and joined by a ridge slightly lower, lies about 0.4 mile WNW of Patangala Point. The W peak is 50m high.

A sandhill, 33m high, lies about 4 miles NE of Patanagala Point, terminating in two rocky points about 0.8 mile apart; the NE point is Pillanawa Point. This sandhill, backed by low land, appears as an island from a distance. Two rocky heads extend about 0.3 mile S of the SW rocky head, and shoal water extends about 0.5 mile farther offshore. The coast for about 2 miles SW of Pillanawa Point should not be approached within 0.8 mile.

The coast, from about 1 mile NE of Pillanawa Point to Uda Point, about 3.3 miles farther NE, is closely backed by sandhills of moderate height, partly covered by scrub.

Pahala Point, about 3.3 miles NE of Uda Point, is the extremity of a sandhill slope; rocky ledges and sunken reefs extend about 0.2 mile offshore for about 1 mile on either side of the point.

Lewin Rock, with a least depth of 5.5m, lies about 1 mile offshore, about 3 miles ENE of Pahala Point.

Daedalus Rock, about 0.8 mile SSE of Lewin Rock, has a least depth of 3.2m, and appears to be a boulder resting on a narrow ledge, with depths of 5.5 to 9.1m extending about 0.5 mile S.

**Illukatiya Point** (6˚30'N., 81˚42'E.), poorly defined, is the S entrance point of Kumbukkan Oya, about 4 miles NE of Pahala Point. The coast between the two points is principally composed of sandhills, partly covered with scrub. Kumbukkan Oya is fronted at its mouth by patches of sunken reef extending about 0.2 mile offshore.

Little Basses Ridge, with depths of not more than 9.1m, extends from its SW end about 1 mile SE of **Butawa Point** (6˚19'N., 81˚29'E.), for about 17 miles ENE. The ridge is in most parts very narrow and steep-to, and there are many rocky heads, especially in its SW part, on which the sea often breaks.

An extensive bank lies S of the W half of Little Basses Ridge, and has a least depth of 10m about 3.8 miles SE of **Pillinawa Point** (6˚22'N., 81˚34'E.).

**4.36 Little Basses Reef** (6˚24'N., 81˚44'E.) lies about 1.5 miles within the NE end of Little Basses Ridge, and is about 0.6m high. The approach to the reef is steep on its S and SE sides, the 200m curve lying about 1 mile SE of the reef.

The wreck of a 7,000 grt vessel, stranded and broken in two, lies about 3.5 miles WSW of Little Basses Reef.

Little Basses Light is shown from a white granite tower, with a black band, 38m high, on Little Basses Reef. The tower has a domed roof, and is surrounded by two galleries under the lantern.

Good radar returns have been reported from the light structure at 16 miles.

*Photo Courtesy of Udena Atygalle, The Sunday Times (Sri Lanka)*
**Little Basses Reef Light**

**Winds—Weather.—**Winds from the W and SW prevail from April to November.

In January, the sea is rough; vessels bound NE should avoid the SE coast of Sri Lanka. In March, the passage up and down the coast is easy.

**Tides—Currents.—**Tides and currents on Little Basses Reef are, as follows:

1. January—The currents set SSW at 2 to 2.5 knots.
2. February—The currents usually set SSW at 2 knots, but may be less.
3. March—The currents generally set SSW, but are variable and weak at times.

4. April—The currents are variable, but occasionally set SW; they are usually weak but can be strong when setting SW.
5. May—The currents set NE at 1 to 3 knots.
6. June, July, August, and September—The currents set NNE at 1 to 3 knots.
7. October—The currents set NNE at 5 knots, changing about the middle of the month to SSW.
8. December—The currents set SSW at 5 knots.

**Caution.—**An area of shoal ground lies NNW of Little Basses Reef; vessels should not approach within 1.5 miles of the reef with the lighthouse bearing between 148˚ and 185˚. If wishing to communicate with the lighthouse, it should be approached between the bearings of 134˚ and 109˚;the approach to the reef should be avoided on all other bearings.

Depths beyond the E end of Little Basses Ridge are irregular and overfalls occur.

The sea may break on any part of Little Basses Ridge with a moderate swell, where depths do not exceed 5.5m, and probably in greater depths. It is inadvisable for other than vessels of light draft to attempt to cross any part of the ridge; such vessels should cross between 2 to 6 miles SW of Little Basses Light.

Atlas Rock, with a depth of 5.5m, lies about 1.5 miles NE of Little Basses Light.

## Illukatiya Point to Batticaloa Roads

**4.37** The coast between Illukatiya Point and Sangamankanda Point, about 33 miles NNE, is nearly all sandy and backed by jungle, which extends over low, flat ground to isolated hills inland. from there to Batticaloa Roads, about 45 miles farther NNW, the coast is cultivated in many places with coconut palms, and the land behind the coast is low and flat.

The depths off this coast are fairly regular, gradually decreasing toward the land, except N of **Arugam Bay** (6˚50'N., 81˚50'E.) to Sangamankanda Point.

Mayagala, 221m high, about 13 miles W of Illukatiya Point, has a remarkable cone-shaped appearance when seen from the E. Dematagala, about 2 miles ENE of Mayagala, has two summits, the higher of which is 306m high. Mandagala, 159m high, about 6 miles farther E, is conspicuous; its summit has a light-colored precipice facing E, and the top of the precipice, seen from the SE, appears clear of the summit.

Chimney Hill, about 11 miles NW of Mandagala, is unusual, appearing as a truncated cone, surmounted by a vertical rock resembling a chimney. This hill, which is isolated, can be seen outside a distance of 4 miles off the coast. **Kongola** (6˚34'N., 81˚42'E.) lies nearer the coast.

Asses Ears, about 5 miles NNE of Kongola, and Kudumbegala, about 2.3 miles farther NNE, are easily recognized.

Panawa, a sandy, jungle-covered ridge, terminates in a scrub-covered, rocky point, 26m high. The point, from N or S, appears as a flat-topped islet, and a stretch of bare sand lies S of the point. Bolt Point, about 2.8 miles farther N, is a scrub-covered rock, 28m high.

Nilagalahela, 194m high, lies about 8 miles W of the entrance to Arugam Bay, and has two summits. The hill, from the E, appears as a single peak, steep on its S side. It is a good landmark, as it is the highest in the vicinity, and darker than its surroundings.

**4.38 Sangamankanda Point** (7˚01'N., 81˚52'E.) lies close N of a long, sandy stretch of coast line; a white martello tower, 6.1m high, lies near the point. Good radar returns have been reported from the point at 17 miles.

Sangamankanda Light is shown at an elevation of 7.6m, from a white concrete tower on a brown base, at the point.

Sangaman Kanda, 86m high, lies about 3 miles WSW of the point.

Egeria Patch, a narrow ridge of coral and sand, with a least depth of 12.8m, lies with its NE extremity about 5.3 miles SE of Sangamankanda Point. The bottom has been seen clearly in 16.5m.

Komari Ridge (Komariya Ridge) lies with its N end about 1.5 miles E of Sangamankanda Point. It is composed of sand and coral, and has a least depth of 5m. The bottom is very uneven for about 3 miles seaward of the ridge; heavy breakers may be caused by winds and currents.

In the vicinity of Sangamankanda Point, several mountains form landmarks. In clear weather, Namunakuli, a sharp peak, 2,036m high, and Maragal Kanda, a long and rounded mountain, about 1,100m high, are visible about 45 and 31 miles, respectively, WSW of Sangamankanda Point.

Westminster Abbey, 558m high at its NW point, lies about 20 miles W of Sangamankanda Point; it is a remarkable tower-like mountain, best seen from E or S and very prominent.

Konduruhela (Kumburahela), 345m high, lies 12.5 miles W of the same point; it is a very prominent, isolated sugar-loaf peak.

Wadinagala, 736m high, lies about 22 miles WNW of Sangamankanda Point, and has a sharp peak, conspicuous from all directions.

Thomson Hill is about 10 miles NW of Sangamankanda Point; Sharp Hill and Bennington Hill, the latter wooded and wedge-shaped, lie about 1.8 miles NNE and 5.5 miles NW, respectively, of Thomson Hill.

**Friar's Hood** (7˚26'N., 81˚30'E.), 655m high, is well-named and shows up well among the surrounding hills. It is usually the first landmark coming from the N, is unmistakable, and readily identified from great distances in clear weather.

A cluster of red roofs is conspicuous about 10 miles N of Sangamankanda Point; a white tower, about 13 miles farther N, is also conspicuous.

The depths off the coast between Sangamankanda Point and Batticaloa Roads are regular, except for a few rocky patches within 1 mile of the coast. The 200m curve lies between 4 and 10 miles offshore; outside this curve the depths increase suddenly and heavy overfalls occur even in good weather.

**Alphee Shoal** (7˚25'N., 81˚52'E.), with a least depth of 5.9m, lies about 2 miles ENE of the conspicuous white tower.

## Batticaloa Roads (7˚46'N., 81˚41'E.)

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**4.39** Batticaloa Roads, an open roadstead, off the entrance of Batticaloa Lake affords good anchorage during the Southwest Monsoon, but is dangerous during the Northeast Monsoon.

The town of Batticaloa lies about 3 miles S of the lake entrance; a railroad bridge crosses the lake in the vicinity.

**Winds—Weather.—**At Batticaloa, W or SW winds prevail from February to November.

During the night and morning at Batticaloa, the wind is usually light and variable, particularly during the Southwest Monsoon, and in the transitional periods between the monsoons. In the afternoon, sea breezes, usually from NE to SE, are prevalent.

During the Southwest Monsoon, a hot, dry wind, usually W or SW, may blow down from the hills. It is most prevalent during June and July, when winds from these directions are recorded in the afternoon, on an average of 7 days per month, instead of the usual sea breeze from E.

Depressions from the Bay of Bengal may affect Batticaloa at the close of the Southwest Monsoon. The Northeast Monsoon sets in towards the end of November.

**Aspect.—Batticaloa Light** (7˚45'N., 81˚41'E.) is shown from a white tower, 28m high, on the W side of the entrance to Batticalao Lake.

A conspicuous lattice tower, marked by red obstruction lights, stands about 1.5 miles SSE of the light.

Beacon Rock, with a least depth of 2.7m, lies about 1.5 miles ENE of Batticaloa Light, and is the outermost danger.

Brennus Shoal, with a least depth of 3.2m, lies about 1 mile NE of the same light. A 5.5m patch lies about 0.3 mile NNW of the shoal, and Tower Rock, with a least depth of 1.8m, lies about 183m SSE of the shoal.

Numerous other dangers lie between Beacon Rock and Batticaloa Light.

Surveyor Rock, with a least depth of 6.4m, lies nearly 1 mile N of Batticaloa Light. Khandalla Bank, with a least depth of 6.4m, lies about 183m SW of Surveyor Rock.

**Anchorage.—**A good berth for a large vessel is in 13.7m, with Batticaloa Light bearing 151˚, distant 1 mile.

A small vessel may anchor, in 12m, about 0.2 mile ESE of Khandalla Bank, with Batticaloa Light bearing 176˚. This is a convenient berth for communicating with the shore.

**Caution.—**Approaching from the S, a vessel should not enter into depths of less than 18.3m until Batticaloa Light bears 199˚. A light-draft vessel may approach the anchorage ESE of Khandalla Bank, with Batticaloa Light bearing not less than 180˚.

## Batticaloa Roads to Trincomalee

**4.40** The coast between Batticaloa Light and Clarke Point, about 16 miles NNW, is covered with numerous coconut palms and backed by several conspicuous hills. From there to Foul Point, about 35 miles NNW, the coast is low and covered with jungle, and the hills inland are few and unimportant.

Beyond the 200m curve, along this coast, the depths increase suddenly and overfalls occur, even in good weather.

In thick weather, it is safe to navigate off this coast by remaining in depths of not less than 37m.

**Tower Hill** (7˚43'N., 81˚24'E.), 244m high, about 17 miles W of Batticaloa Light, is hog-backed, with a conspicuous rock, resembling a tower, on its summit.

Barons Cap, 210m high, about 7 miles N of Tower Hill, is a sugar-loaf hill; it is conspicuous when clear of other hills, especially from about due E, but from NE its top appears broader and merges with the hills farther S.

Gunner's Quoin, about 15 miles W of Baron's Cap, is a large, wedge-shaped mountain, and a good mark.

Kirimechiodai Malai (Grimechiodai Malai), 7 miles WNW of Clarke Point, is 56m high, and only seen between bearings of 247˚ and 292˚, when it appears as a low, wedge-shaped hill with a small peak, rising steeply from S and sloping N.

Kunchan Kallu, 125m high, lies about 10.5 miles WNW of Clarke Point; from the SE it appears wedge-shaped and moderately steep-to S, but from the NE it has no well-defined summit.

Small Quoin, about 4.3 miles farther WNW, is 158m and from the SE slopes to a single rounded summit.

Baker Rocks lie on reefs extending about 1.3 miles NE of **Vandeloos Point** (7˚55'N., 81˚35'E.).

Clarke Point, about 4.5 miles farther NNW, is low and fringed by rocks and foul ground. Elephant Rock, 7m high and light-colored, lies close N of Clarke Point.

Challitivu Island, about 8.5 miles NNW of Clarke Point, is 9.1m high and wooded. Panditiva Munai, about 4.3 miles farther NNW, is sharp and rocky, with a small above-water rock close off it.

**4.41 Kadeawella Point** (Muricaadi Munai) (8˚12'N., 81˚26'E.) is fronted by rocks, the highest of which is 3m high.

Virgel Rocks (Virugel Rocks), about 2.5 miles N of Kadeawella Point and about 1 mile offshore, consist of two sunken rocks and a rock, 0.9m high.

Tree Rock, 13m high, with a tree on it, lies about 5 miles NNW of Kadeawella Point and about 0.3 mile offshore; a rock, 0.6m high, lies about 0.5 mile E of Tree Rock.

Ship Rock, 19m high, lies about 1.8 mile NNW of Tree Rock, abreast a conspicuous rock on the coast. Alligator Rock, 0.9m high, with a sunken rock close NE, lies about 1.5 miles E of Ship Rock.

The entrance of a lagoon lies about 2.8 miles N of Ship Rock. Several islets lie off the entrance; the highest islet, 18.3m high, with some trees on it, is conspicuous.

White Rock, 7.6m high, lies on the beach about 3 miles N of the lagoon entrance and shows up well during the forenoon.

Heming Rocks extend about 1.5 miles NE from White Rock; the highest rock is 6.1m high, and the outermost is 2.1m high and about 1 mile offshore.

Coral Point, about 6 miles NNW of White Rock, is surrounded by coral reef.

**Foul Point** (8˚32'N., 81˚19'E.), about 2.8 miles NW of Coral Point, is low, covered with coconut trees, and forms the SE entrance point of Trincomalee Bay.

Munayai Paru, a coral patch with large boulders, with a least depth of 4.3m and steep-to, lies about 1 mile NNW of Fort Point, and close off a reef extending NW of the point.

**Tides—Currents.—**Near Trincomalee, the current sets as follows:

1. October to February—usually S at 0.5 to 3 knots.
2. March and April—usually N at 0.5 to 1.3 knots.
3. May to July—generally inappreciable, but irregular currents set strongly N and sometimes S.
4. August—usually N at 0.5 to 1.3 knots.
5. September—Same as for May to July.

## Approaches to Trincomalee Harbor

**4.42** Trincomalee Harbor is approached through Trincomalee Bay, which is entered between **Fort Point** (8˚32'N., 81˚19'E.) and Flagstaff Point, about 5.5 miles NW. The entrance of Trincomalee Harbor lies on the NW side of the bay.

Koddiyar Bay occupies the S portion of Trincomalee Bay; Tambalagam Bay, a shallow lagoon, extends from the NW corner of Koddiyar Bay.

**Round Island** (8˚30'N., 81˚13'E.) lies in the W part of Trincomalee Bay, about 5.5 miles W of Foul Point. A light is shown from a white round tower, 21m high, on the summit of the island.

Depths in Trincomalee Bay, in the approach to Trincomalee Harbor, are deep.

## Trincomalee Bay—Southeast Side

**4.43** The coast between Foul Point and Norway Point, about 2.5 miles WSW, is low and fronted by a shoal bank. Northesk Rocks, a patch with a least depth of 1.2m, lies about 1.5 miles W of Foul Point.

Norway Islet, 13.4m high, lies about 0.3 mile WSW of Norway Point. Beacon Rock, 2.4m high, lies about 0.2 mile SW of Norway Islet.

Koddiyar Bay, entered between Norway Point and Marble Point, about 4 miles W, has low shores, with several rivers emptying into it.

Koddiyar Sands fronts the shore for about 1 mile E and 2 miles W of the mouth of the Koddiyar Aru. When the rivers are in flood, shoal depths extend farther seaward off the mouths of the Koddiyar Aru and the river about 1.8 miles farther W; an extension of about 91m has been recorded after heavy rains.

Brown Shoal, with a least depth of 9.1m, lies about 1.3 miles NW of the W entrance of the Koddiyar Aru.

**Elizabeth Island** (8˚30'N., 81˚13'E.), about 1 mile S of Round Island, consists of bare rock with a well-defined summit, 10.3m high; the island appears conical from the N. The island is surrounded by rocks and shoals to a distance of 0.2 mile, except on its E side. A beacon, 9.4m high, lies near the summit of the island.

Niger Rock lies about 0.5 mile NW of Elizabeth Island.

## Trincomalee Bay—Northwest Side

**4.44** **Flagstaff Point** (8˚35'N., 81˚15'E.), the NW entrance point of Trincomalee Bay, is the N end of Fort Frederick. It is a bold promontory with black vertical cliffs on its E side, which gradually diminish in height from 9.1m at Flagstaff Point, to sea level in a rocky point at the SE corner. The promontory gives a wedge-shaped appearance from the N or S as the top of the headland slopes with the cliffs. The summit, 51m high, with a building and a radio mast marked by a red obstruction light on it, is about 0.2 mile from the N point. A large, detached rock, with perpendicular sides and a flat top, lies close off the N end of Flagstaff Point.

The Maidan, an open grassy space between the fort and the town of Trincomalee, is the SW end of Fort Frederick, where there is a fortification wall, 15m high, with bastions at each angle. The white gateway of the fort, on the S front, is very conspicuous from S, as is the Irrigation Office, a large white building near the sea, on the S front.

Dutch Bay lies between Fort Frederick and Dutch Point, about 0.7 mile S. It has low sandy shores, and the flatland, on which the S part of Trincomalee is built, stretches back to Trincomalee Harbor. Dutch Point, 34m high to the tops of the trees, has a cliffy and rocky sea face.

The N part of Dutch Bay is shoal and rocky, and Prai Malai, a small rocky islet, lies about 91m offshore. The white dome of the Roman Catholic Church, showing above the trees, is conspicuous about 0.5 mile NW of Dutch Point. The Naval Commissioner's House, a white, flat-topped, two-storied structure, with a pillared veranda and lying among trees, is conspicuous about 137m farther N.

**Anchorage.—**During the height of the Southwest Monsoon, Dutch Bay will be found to be a more convenient anchorage for boat work than Trincomalee Harbor, as there is an excellent lee for landing anywhere along the shore, and as a rule, no swell. The best anchorage is in 12m, with Dutch Point bearing 174˚, distant about 0.5 mile.

Rocky Point, about 0.3 mile S of Dutch Point, is the NE end of Ostenburg Ridge. The point is narrow and cliffy, and extends about 0.3 mile NE in a series of remarkable knife-edged rocks; among these rocks is a rocky pillar that very conspicuous from the N or S. The rocks forming the point diminish in height gradually, and end in a shoal ridge about 91m outside the outermost rock, where it is steep-to.

**4.45** **Chapel Point** (8˚33'N., 81˚15'E.), nearly 1 mile S of Rocky Point, is rocky with a rounded base, behind which the land rises steeply to Chapel Hill, 103m high. The hill forms the NE end of Elephant Ridge, and is covered with jungle; the remainder of the ridge is more sparsely wooded, and between the trees, are long vertical streaks and spaces of red earth.

Chapel Island, about 0.2 mile SSE of Chapel Point, is flat in its N part with trees and bushes, but the higher portion is bare rock, the summit consisting of a large square-topped and flat-fronted boulder.

Chapel Rock, about 0.5 mile NE of Chapel Point, is 0.9m high; a rocky ridge, with a rock awash at its outer end, extends about 0.2 mile NE from the rock.

Elephant Point, about 1.3 miles SW of Chapel Point, is low and can be easily recognized by the low bastion of an old fort at its extremity. Hoods Tower lies near the summit of a 77m hill, about 0.3 mile NE of Elephant Point.

Elephant Island, about 0.4 mile ESE of Elephant Point, is 36m high to the tops of the trees. The W part of the island is a narrow rocky point terminating in a small cone, 2.4m high.

Elephant Rock, with a least depth of 1.2m, lies about 183m W of the SW end of Elephant Island.

## Trincomalee Bay—West Side

**4.46** **Marble Point** (8˚31'N., 81˚13'E.), about 0.8 mile WSW of Round Island, appears from the E as a small round hill, 30m high, terminating S in a low, rocky ridge, about 0.9m high.

Diamond Hill, a wooded and fairly-conspicuous peak, 78m high, rises about 0.5 mile NNW of Marble Point. White Top

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Rock, 6.7m high, lies close offshore about 0.2 mile NE of Diamond Hill.

Clappenburg Point, the W entrance point of Trincomalee Harbor, lies about 1.3 miles N of Marble Point. It is the E extremity of a narrow, cockscomb ridge, extending about 0.5 mile WSW and forming a straight, bare cliff on its S side; the ridge has two summits, 33 and 30m high, and small shrubs grow along the crest. About 0.3 mile WSW of Clappenburg Point, the cliffs are broken to the waterline by a precipitous gap, spanned by a narrow causeway. The part E of the gap is known as Clappenburg Island.

A conspicuous masonry beacon, 3m high, painted in black and white bands, and surmounted by a disc topmark, lies on Clappenburg Point.

Clappenburg Hill (Kodipotumalai), 110m high and covered with dense jungle, rises to a double summit, named Kari Malai Utu Malai, about 1 mile WSW of Clappenburg Point.

Grommet Rock, awash, lies about 0.5 mile S of Clappenburg Point. The rock is often not visible on a calm day, but during the Southwest Monsoon the sea usually breaks over it. A 2.3m patch lies about 0.2 mile NE of Grommet Rock.

Minden Rock, with a least depth of 3.7m, and Nade Munai Paar, a 2.3m patch, lie about 0.3 and 0.5 mile, respectively, SE of Clappenburg Point. These steep-to dangers are seldom marked by breakers or show in any way.

**Tides—Currents.—**Near Round Island, a current, apparently tidal, runs ESE and WSW, sometimes attaining a velocity of 1.5 knots.

A current has been experienced off Norway Point, setting NE at a velocity of 2 knots, out of Koddiyar Bay.

## Trincomalee Harbor (8˚33'N., 81˚13'E.)

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**4.47** Trincomalee Harbor, entered between **Clappenburg Point** (8˚32'N., 81˚13'E.) and Elephant Point, is the only entirely sheltered natural harbor in the South Asian subcontinent. The shores of the harbor are indented by picturesque bays and coves separated by hilly, wooded points; it also encloses several islands and islets.

The harbor, which was formerly a naval base, is now under development, to include improved alongside berthing, as a commercial port.

There are considerable depths extending about 1.3 miles within the harbor entrance, then gradually shoaling with a fair degree of regularity into the various bays and coves. Vessels of almost any size can obtain anchorage in the harbor.

**Winds—Weather.—**The climate of Trincomalee is generally healthy. The dry season is from May to September, during the Southwest Monsoon, although there is a tendency for showers in nthe afternoon and evening. A wind sometimes develops in the harbor causing small breaking waves which may endanger boats.

During the Northeast Monsoon, there is a heavy swell on the outer beaches; wind and rain storms of short duration, but violent, occur.

**Tides—Currents.—**The tidal rise at Trincomalee is 0.7m at MHWS, and 0.5m at MHWN.

During November and December, the months with the greatest average rainfall, the surface water is practically always running out of the harbor, at velocities varying from 0.5 to 1 knot in mid-channel, but with a greater velocity near the shore. After passing Elephant Point, the current sets SE at a velocity of 1 knot.

At a depth of 18.3m, and probably at lesser depths, the water flows inward at half the velocity of the outgoing surface current. Little is known of the current inside Trincomalee Harbor during the Southwest Monsoon.

**Aspect.—**Although there are a number of piers in various parts of the harbor, the large majority of cargo is transferred by lighters.

In China Bay, Oiling Berth No. 2 and Oiling Berth No. 3 lie on the SE and NW sides, respectively, of a pier, about 0.5 mile WNW of Round Point. The berths each have an alongside depth of 10.3m and a length of 122m. It was reported (1978) that the pier was unsafe for ocean-going vessels to berth alongside.

Oiling Berth No. 1 lies about 0.2 mile W of Round Point.

**Pandi Aricha Munai Paar** (8˚32'N., 81˚13'E.), a shoal with a least depth of 4.6m, lies about 0.2 mile ENE of Clappenburg Point, the W entrance point of the harbor. The shoal is marked SE by a red can buoy.

The W side of Trincomalee Harbor is indented by four principal bays, which also contain several coves.

Clappenburg Bay lies on the N side of Clappenburg Island. Clappenburg Wharf lies at the head of the bay.

Great Sober Island, in the SW part of the harbor, is dominated by Gravel Hill, 70m high, the wooded summit of the island. A causeway, carrying a water pipeline, joins the NW part of Great Sober Island to a boulder strewn spit extending NE from the coast.

Small Sober Island, 35m high, lies close E of Great Sober Island, to which it is connected by a ruined causeway. Eagle Point, the E extremity of Small Sober Island, is marked close S by a beacon. A lighted buoy, painted in red and white stripes, is moored about 91m SSW of the beacon. A small 12.8m patch lies about 0.2 mile N of Eagle Point.

Orlando Cove lies N of Little Sober Island, on the E side of Great Sober Island.

Round Point, the N entrance point of Malay Cove, lies about 1 mile NW of Eagle Point. Sister Shoal, with a least depth of 2.7m, lies in the entrance of Malay Cove, about 0.5 mile S of Round Point. There is a 3.7m shoal patch 162m S, and a foul area about 0.2 mile SW, respectively, of Sister Shoal.

China Bay lies N of Malay Cove and is separated from it by a promontory terminating in Round Point, on which Mount Challenger lies, rising to a height of 56m, 0.4 mile WSW of the point.

A conspicuous flour mill and silos, marked by red obstruction lights, stand 0.2 mile WSW of Round Point. On the S side, the mill is fronted by a quay, 183m long and flanked by dolphins, used by bulk carriers to supply the mill.

Round Point Shoals consists of two shoal patches, about 183m apart, lying about 0.1 mile N and 0.2 mile NW, respectively of Round Point. There is a least depth of 3.7m over the E shoal, which is marked SE and SW by buoys. The W shoal, marked NW by a buoy, has a least depth of 4.6m.

Harden Buoy, a can buoy painted in black and white checkers, is moored close E of a 4.1m patch, about 0.5 mile WNW of Round Point.

Cod Bay, at the head of the harbor, is entered between Middle Point (8˚34'N., 81˚12'E.) and Cod Point, about 0.2 mile WNW.

Railway Spit Buoy, a can buoy painted in black and white checkers, is moored close E of two shoal patches, about 0.3 mile SW of Middle Point.

Elephant Point, previously described in paragraph 4.45, is the E entrance point of Trincomalee Harbor, and the SW extremity of Elephant Ridge.

Ostenburg Point, about 0.5 mile NW of Elephant Point, lies at the SW extremity of Ostenburg Ridge. Ostenburg Light is shown from a lantern on the SW corner of a wall of a conspicuous building, about 1,137m N of Ostenburg Point. A radio mast is situated about 0.8 mile E of the light. Elephant Ridge and Ostenburg Ridge, two straight-topped hills, parallel to each other, form the S part of the E shore of Trincomalee Harbor.

Dockyard Shoal, consisting of two rocky heads with depths of less than 1.8m, lies about 0.5 mile N of Ostenburg Point. Buoys are situated close NW of the inner head and close SW of the outer head.

York Shoal, about 0.3 mile NNW of Dockyard Shoal, lies at the end of a spit extending about 0.4 mile WSW of York Island. A red conical buoy and a lighted buoy are moored SW and WNW, respectively, of the shoal. Koroela Rock, about 91m N of York Shoal, has a least depth of 4.2m and is marked NW by a red conical buoy.

Kachcheri Bay and Powder Bay lie in the area between Ostenburg Point and Plantain Point, about 1.7 miles NW. Powder Island, separating the two bays, is 9m high to the tops of the trees and is connected to the coast by a causeway.

Powder Rocks, a group of low, black rocks, lie near the SW end of the shallow spit on which Powder Island lies. The highest rock is 2.7m high, with some mangrove bushes on it.

Powder Spit buoy marks the W end of shoal water surrounding Powder Rocks.

Plantain Point is the SW end of a narrow, wooded peninsula; Orrs Hill, 31.4m high, about 0.5 mile NW of the point, is the summit of the ridge. A white cylindrical beacon stands on the point, with a lookout tower about 0.2 mile NE. There are a number of houses on the point, partially obscured by trees. A shoal spit extends about 0.1 mile SW of Plaintain Point.

Yard Cove is entered W of Plaintain Point.

**Pilotage.—**Pilotage is compulsory and is available during daylight hours only. The vessel's ETA, together with a dangerous cargo declaration, should be sent through Colombo at least 24 hours in advance. The pilots board 0.2 mile N of Round Island.

Vessels awaiting a pilot should anchor 0.5 mile NW of Round Island; if arriving between 1800 and 2100, vessels may be brought in at the discretion of the Deputy Master Attendant.

Vessels embarking a pilot should preferably lower an accommodation ladder; if this is not practicable they should let down a pilot ladder and two stout man ropes.

Vessels can communicate with the pilot station via VHF.

**Regulations.—**There is a naval signal station near Ostenburg Point.

Vessels may enter during daylight hours only.

The Port Health Officer boards vessels after arrival at the anchorage; pratique for vessels arriving from another port in Sri Lanka is automatic.

**Signals.—**The following signals, consisting of flags from the International Code of Signals, are required from all vessels arriving off the port;

1. Flag Q by day, or red and white lights, vertically displayed, at night—The vessel has not yet received pratique.
2. House flag under the ensign at the stern, by day, or white light under stern light, at night—Restricted pratique has been granted.
3. Signal QQQ by day, or three green lights, vertically disposed, at night—The vessel is infected.

**Anchorage.—**A good anchorage can be found in almost any part of Trincomalee Harbor during fair weather. The most sheltered anchorage in the harbor is in Orlando Cove, in 28m, with the NE point of Great Sober Island bearing 316˚.

Anchorage in the approaches to the port is only permitted to vessels awaiting a pilot, but vessels may find sheltered and convenient anchorage in Dutch Bay, Orlando Cove, and NW of Round Island.

**Directions.—**Approaching from the S, pass 2 miles E of Foul Point, steering 314˚ until Round Island bears 235˚; steer for it on that bearing until the beacon on Clappenburg Point bears 295˚. Then head for the beacon on that bearing until Round Island Light bears 168˚, when course should be altered NNW into the harbor, keeping the same light bearing 168˚ astern.

Approaching from the N, keep Foul Point Light bearing 179˚ until Round Island Light bears 236˚; steer for it on that bearing until the beacon on Clappenburg Point bears 295˚,then proceed as directed above.

At night, approaching from S, do not bring Foul Island Light to bear less than 193˚ until Round Island Light bears 247˚ on this bearing the sector changes from red to white. Keeping in the white sector, steer for the same light until Foul Point Light bears E. Then alter course to W, keeping Foul Point Light bearing 090˚ astern, and passing through the red sector of Round Island Light. On entering the white sector of Round Island Light, alter course to 348˚ keeping the same light astern in the white sector, bearing 168˚.

Approaching from the N at night, keep Foul Point Light bearing 179˚ until Round Island Light bears 236˚. Keeping in the white sector, steer for Round Island Light on the same bearing until Foul Point Light bears E, then proceed as directed above.

**Caution.—**All anchorages and landings in the approaches to Trincomalee and those within the harbor are subject to security clearance from the Sri Lanka Navy and prior notification to the pilot station before use.

## Trincomalee to Point Pedro

**4.48** Back Bay, entered between **Flagstaff Point**(8˚35'N., 81˚15'E.) and Elizabeth Point, about 3 miles NNW, is largely used by local craft trading with Trincomalee during the Southwest Monsoon.

The SE side of the bay, formed by the NW side of Fort Frederick, has a rocky shore with steep, wooded, and grassy slopes above. The W shore of the bay, between Fort Frederick and

Red Bluff, about 3 miles NNW, is formed by a smooth sweep of sand, backed by a low shore fringed with coconut palms; farther inland is a low range of wooded hills. Red Bluff consists of two patches of bare, earthy cliffs, 14m high and covered with jungle.

Back Bay Light is shown during the Southwest Monsoon from a house about 0.8 mile WSW of Flagstaff Point.

Bazaar Rock, 0.6m high, lies on the outer part of a reef, surrounded by foul ground, extending about 0.3 mile NNE from the beach, about 1 mile W of Flagstaff Point.

Elizabeth Point is low and not easily distinguished, the land behind being slightly elevated, wooded, and fronted by coconut trees. Coral reef extends about 183m offshore SW of the point.

Lively Rocks lie at the E end of a shoal spit, extending about 0.5 mile E of Elizabeth Point. Two of these rocks are always above-water; one of these is 0.6m high; the sea nearly alway breaks on another of these rocks.

Anchorage may be taken anywhere in Back Bay during the Southwest Monsoon, but it is dangerous during the Northeast Monsoon. The most convenient berth is in 14m, sand, with Flagstaff Point bearing 137˚, about 0.6 mile.

The coast between Elizabeth Point and Koduwakattu Malai, about 17 miles NW, consists of long, sandy beaches fronting several lagoons. The shore is generally wooded and backed by low hills. Reefs and foul ground extend over 1.5 miles offshore between Elizabeth Point and Ava Point, about 7 miles NNW, and for about 1 mile offshore between Ava Point and Koduwakattu Malai, about 10 miles farther NW.

**Caution.—**A number of rocks and shoals, lie off this section of coast, and uncharted dangers may lie within the 20m curve.

Nilaveli Hill, 55m high and shaped like a sugarloaf, is conspicuous about 3 miles NNW of Elizabeth Point; radio masts are conspicuous about 1.5 miles farther N.

Malai Porru Putta Paar, with a least depth of 4.3m, lies about 1 mile NE of Elizabeth Point. This dangerous shoal is steep-to and the sea does not break over it. The E extremities of Fort Frederick and Chapel Island, in line bearing 179˚, lead E of this danger.

Fairlie Rocks, awash, extend 0.5 mile offshore E of Nilaweli Hill. Diomede Rock, awash, and a 3m depth lie about 1.8 miles NE and 2.3 miles ENE, respectively, of Nilaweli Hill.

Pigeon Island, 30.2m high and rocky, lies about 2 miles ESE of Ava Point. Shoals extend E, and a rocky islet lies about 0.7 mile SSE of the island.

**Caution.—**At night or in thick weather, vessels should not approach the coast between Elizabeth Point and Pigeon Island in depths of less than 46m.

Foul ground extends about 1.3 miles ENE from Ava Point.

**4.49** Andamban Malai, a rounded hill 116m high, lies about 5 miles WNW of Ava Point. Pinnacle Rock, a sharp finger-like peak, 65m high, is conspicuous about 1.3 miles NE of Andamban Malai.

Flat Rock, 6.4m high, lies about 5 miles NW of Ava Point. Pinnacle Rock, 1.5m high, with a shoal area extending E, lies about 1 mile SSE of Flat Rock.

**Koduwakattu Malai** (8˚52'N., 81˚05'E.) is the N of two rocky headlands separated by a sandy bay. A framework tower, 61m high, is conspicuous about 0.8 mile S of the point. Another tower stands about 2.3 miles farther SSE. A group of rocks, one of which is 6.1m high, lies about 2 miles WNW of the point. Good radar returns have been reported from the point at 17 miles.

**Anchorage.—**During the Southwest Monsoon, vessels may obtain sheltered anchorage up to 2 miles offshore S of Koduwakattu Malai, in depths of 18.3 to 28m, mud, and farther NW along the coast, in 16.5 to 18.3m.

Shoulder Point, a low, rocky headland, lies about 6 miles NW of Koduwakattu Malai. It is fringed by reefs with two rocks 4.5 and 6.1m high A light is shown from the point. A dangerous reef, on which the sea breaks, and which was not examined in 1945, lies about 1 mile SE of Shoulder Point.

**Black Point** (9˚06'N., 80˚54'E.) has conspicuous cliffs, 36m high, close N. The entrance to a lagoon, N of the cliffs, is also conspicuous.

**Mullaittivu Light** (9˚16'N., 80˚49'E.) is shown from a metal framework obelisk with a dome top, 19.8m high, in the village of Mullaittivu. Mullaittivu Shoals, with depth of less than 9.1m, extend about 7 miles N from a position 4 miles SSE of Mullaittivu Light. These shoals also extend about 3 miles E of Mullaittivu Light; rocks, with depths of less than 1.8m, lie between 1 and 2 miles NNE and NNW of the lighthouse. During the Northeast Monsoon the sea breaks heavily on the N side of Mullaittivu Shoals.

**Caution.—**Vessels should not approach the coast within 2 miles between Shoulder Point and Mullaittivu Shoals; although, there are no off-lying dangers with the possible exception of a 9.1m patch and an 11.3m patch, about 1 mile NE and 3.3 miles N, respectively, of Shoulder Point.

Vessels passing Mullaittivu Shoals should not approach within depths of 37m.

**4.50** A conspicuous hillock lies about 4.5 miles NW of Mullaittivu.

About 8 miles farther NW, a gap appears distinctive between the bearings of 200˚ and 248˚; a conspicuous tree lies on the NW side of the gap.

Another very distinctive gap in the coast, with a conspicuous tree SE, lies about 3.5 miles NW of the above gap.

Chundikkulam, about 2.5 miles farther NW, has several gaps SE which are not always visible, but are conspicuous at times.

**Kaddaikadu** (9˚34'N., 80˚29'E.), about 8 miles NW of Chundikkulam, has a church which is conspicuous between the bearings of 180˚ and 200˚.

Pedro Channel South Obelisk, a white obelisk, 15m high, surmounted by a white diamond, is conspicuous about 2 miles NW of Kaddaikadu; the top of the obelisk has a height of 22.2m.

Saint Anthony's Church lies 4.5 miles NW of the obelisk. Saint Mary's Church, with a red roof, at Kudarappu, about 4 miles farther NW, is visible at intervals between the trees.

Pedro Channel Middle Beacon, a concrete beacon, painted in black and white bands, lies about 1.3 miles NNW of Saint Mary's Church.

Some very conspicuous sand dunes lie near the coast about 4.5 miles NW of Saint Mary's Church. A Hindu shrine, visible from seaward and close to a red-roofed church, stands about 1.5 miles NW of the sand dunes.

There are several other Hindu shrines at Manalkadu and Katkovalam, about 2.5 and 5 miles, respectively, NNW of the sand dunes. Manalkadu Church was reported to be distinctive between the bearings of 188˚ and 270˚.

The coast between Katkovalam and Point Pedro is lined with casuarina trees and palms, about 21m high.

**4.51** **Point Pedro** (9˚50'N., 80˚15'E.), the NE point of Sri Lanka, is marked by Point Pedro Light, shown from a white masonry tower, 32m high.

Point Pedro Shoal, with depths of less than 9.1m, lies roughly parallel with the coast and from 3 to as much as 8 miles offshore. From abreast Point Pedro, it stretches about 23 miles SE, and several miles NW. Stork Shoal, with a least depth of 1.8m, about 6 miles ESE of Point Pedro, and Ethiopia Shoal, with a depth of 2.3m, about 3.5 miles farther SE, are the two shallowest heads.

Pedro Channel, the passage between Pedro Shoal and the coast, has depths of 11.4 to 14.6m.

Point Pedro, a town and port open from mid-February to mid-October, lies about 0.8 mile W of Point Pedro. There is a custom house with a red roof and several bungalows in the vicinity. It has been reported (2002) that a small dolphin jetty at Point Pedro can work lighters of up to 2.5m draft.

**Anchorage.—**Good anchorage can be obtained in any part of Pedro Channel, except in the prohibited anchorage area near Point Pedro.

**Directions.—**A vessel passing outside of Pedro Point Shoal should not approach land inside depths of 37m by day, or inside depths of 46m at night, between **Pigeon Inland** (8˚43'N., 81˚12'E.) and Point Pedro.

A vessel proceeding through Pedro Channel should pass Mullaittivu Shoals in a depth of not less than 37m, and should not approach the coast NW of these shoals inside depths of 18.3m, until Pedro Channel South Obelisk bears 280˚. The coast should then be approached on this bearing, as discolored water and shallower depths than charted have been reported in this vicinity. This course leads N of the shoals extending NW from Mullaittivu and S of the SE end of Point Pedro Shoal. After clearing the latter shoal, alter course NW keeping about 1.5 miles off the coast.

**Caution.—**During SW winds, a red sand-haze forms over the land between Mullaittivu and Point Pedro; the haze may reduce coastal visibility to about 3 miles.

The best time to make the obelisk is during the forenoon, so as to arrive at the S end of the channel about noon. The obelisk will then be visible from the N until the high trees and light structure at Point Pedro are made out, and there will be no difficulty in avoiding Ethiopia Shoal.

## Palk Strait

**4.52** **Palk Strait** (10˚00'N., 80˚00'E.), forming the N entrance to Palk Bay, lies between the N coast of Sri Lanka and the E coast of India. The strait is occupied largely by banks, with depths of from 5.5 to 9.1m, and by numerous shoals with less depths over then.

The three principal entrance channels are South Channel, Middle Channel, and North Channel. South Channel, consisting of East Channel and West Channel, and North Channel are generally used by local vessels. Large vessels use Pedro Channel and West Cchannel.

**Tides—Currents.—**The tidal rise in Palk Strait (Point Pedro) is 0.7m at MHWS, and 0.5m at MHWN.

The tidal currents in Palk Strait and Palk Bay are irregular, being influenced by the prevailing winds. During February, March, and April the tidal currents are more regular, changing every 6.5 hours at high and low water in the bay. They set W during the rising tide and E during the falling tide at Trincomalee.

From West Channel to Delft Island, about 18 miles SSW, the tidal currents follow the direction of the coast, setting SW and SE during the falling tide at Trincomalee. At springs, the currents reach a velocity of nearly 1 knot in Delft Channel and about 0.8 knot in the West Channel.

Currents generally set with the wind, except in May and October when they are variable. During February, March, and April, in a calm, there is no current in the entrance of Palk Bay.

In the middle of Palk Bay, the current sets leeward in either monsoon.

When a N current is running outside Palk Strait, a current setting out of the strait is usually found. When a S current is running, it is presumed that the reverse takes place. Close inshore, tidal currents are felt, and they vary the strength of the current in the vicinity of Middle Banks.

**Depths—Limitations.—South Banks** (9˚57'N., 79˚57'E.) consist of a number of shoals with depths of less than 5.5m. Depths of 7.3 to 9.1m extend E of these banks to join Point Pedro Shoal, N of Point Pedro. A depth of 5.5m was reported (1973) to lie in approximate position 10˚01'N, 80˚03'E.

Middle Banks consist of numerous shoals, with depths of less than 5.5m, lying N of South Banks. The banks include Eight Foot Bank, with a least depth of 2.3m, about 6.5 miles S of **Point Calimere** (10˚17'N., 79˚53'E.).

South Channel consists of E Channel and West Channel. East Channel, with a least depth of 7.3m, lies between South Banks and Point Pedro Shoal; a depth of 5.5m was reported (1973) about 16.5 miles NW of Point Pedro. The channel, with a least depth of 10.1m in the fairway, lies between South Banks and the shoal water extending NW from **Karaitivu** (9˚44'N., 79˚53'E.). In 1944, a least depth of 10.7m could be carried through West Channel over a width of 0.3 mile, but local knowledge is necessary to ensure safe navigation in this depth.

Middle Channel, between South Banks and Middle Banks, is about 4 miles wide, with a least depth of 4.6m in the center of the channel; elsewhere the least depth in this channel is 5.5m.

North Channel, between Middle Banks and Point Calimere to the N, has a least depth of 5.9m over a width of about 1.8 miles, between the shore bank fringing Point Calimere and a 4.1m patch about 4 miles SSE of the point.

**Caution.—**It has been reported (1993) that vessels may not use Palk Strait and the E territorial waters of Sri Lanka without prior permission of the Sri Lankan Naval Command.

## Palk Strait—South Side

**4.53** The S shore of Palk Strait is formed by the N coast of the Jaffna Peninsula, which extends about 21 miles WSW from **Point Pedro** (9˚50'N., 80˚15'E.). This coast is generally low and sandy, with some cliffs and sandhills visible from seaward.

It is backed by salt water lagoons and stony plains.The Jaffna Peninsula is most fertile, being irrigated from numerous wells.

The coast from Point Pedro to Palmyra Point, the N extremity of Sri Lanka, then to Tondaimanar, 4.5 miles farther WSW, is lined with palmyra and coconut palms from 21 to 27m high, and fringed by a narrow reef extending up to 183m offshore. Tandaimanar is marked by a cliff, 7.6m high; the lagoon entrance close W serves as a leading mark for East Channel.

Between Tondaimanar and Kankesanturai, about 5.5 miles W, the coast is stony, lined with tall palms, and fringed with a reef. Vessels should not approach within 0.5 mile of this coast.

**Kankesanturai** (9˚49'N., 80˚03'E.) (World Port Index No. 49300) is the chief port of call on the N coast of Sri Lanka, for vessels during the Southwest Monsoon. It has considerable trade with ports in S India, and there is a custom house.

There are two stone bastions on the beach and a small pier. A light is shown from a round masonry tower, 22.3m high, near the W bastion.

Cargo boats, which may be used as lighters, anchor off the beach during good weather; lighterage operations are only conducted from March to October during the Southwest Monsoon.

A chimney, about 61m high, of the cement works, is conspicuous about 1 mile WSW of Kankesanturai. There are two radio masts at Jaffna Airport, about 2.5 miles ESE of the port.

A breakwater extends about 0.5 mile NW from the shore 0.5 mile W of Western Bastion. A spur extends 0.2 mile W from the breakwater near its NW end; a quay for vessels discharging coal and gypsum for the cement works was under construction in 1983 on the S side of the spur.

There is a berth for coastal vessels drawing up to 4.2m on the SW side of the breakwater near its root.

Vessels of 20,000 dwt, with a draft of 7.3m, berth between two mooring buoys at the harbor entrance until the quay has been completed.

Anchorage for vessels waiting to berth can be obtained about 0.5 mile NW of the breakwater head. A pilot will board at the anchorage. Vessels not supplying the cement works anchor off the beach near Western Bastion in good weather.

The coast between Kankesanturai and the NW extremity of the Jaffna Peninsula, about 9 miles WSW, is bordered by palmyra and coconut palms, and fringed by coral reef. A conspicuous sandhill lies about 1 mile W of Matakal, a village about 5 miles WSW of Kankesanturai.

A bank, with depths of 5.5m and less, extends up to 2 miles offshore in places off the NW end of the Jaffna Peninsula. A 3.2m coral patch lies near the outer edge of this bank, nearly 1.8 miles NW of the conspicuous sandhill W of Matakal.

**Karaitivu** (9˚44'N., 79˚53'E.), off the NW end of the Jaffna Peninsula, has a sandhill, 6.1m high, on the NE point of the island; the sandhill has some palms on it and is conspicuous from NW. A light is shown from a white masonry tower, 29.5m high, on Kovilan Point, the NW extremity of Karaitivu.

A flat, with depths of less than 5.5m, fronts the W side of Karaitivu, extending up to 3 miles offshore. Several shoals, with depths of 3.7 to 5.5m, lie N and NW of this flat, and with Kovilan Point bearing between 125˚ and 075˚; the outermost of these shoals, with a least depth of 4.1m, lies about 5.8 miles WNW of Kovilan Point.

## Palk Strait—North Side

**4.54** The N shore of Palk Strait consists of the low-lying coast between **Point Calimere** (10˚17'N., 79˚53'E.) and a low point, about 39 miles WSW, which projects from the coast close S of the entrance to the Vellar River.

Point Calimere Light is shown from a concrete tower, 18.2m high, close within the point; a racon transmits from the tower. A drying sandbank, inside of which local craft find shelter in bad weather, extends about 1.5 miles NE of the point.

Between Point Calimere and Atirampattinam, about 29 miles W, the coast consists of mud flats, covered with mangrove bushes, and flooded during heavy rains and high spring tides.

Atirampattinam (Adirampatnam) is a port of refuge for local craft between May and September. It has a considerable local trade, principally with Sri Lanka.

Shaullavanaigenpatam, about 6 miles SW of Atirampattinam, has a a high column which is conspicuous and visible 15 miles.

Anchorage may be obtained, in about 5.8m, soft mud, with the white tall mast at Atirampattinam bearing 000˚, about 4.5 miles, and with the column at Shallavanaigapatam bearing 281˚. Smaller vessels may anchor closer to the town. With S or SE winds, a heavy swell sets on this coast making the anchorage unsafe, but during the Northeast Monsoon it is considered good.

A spit of hard sand, with depths of less than 5.5m, extends 13 miles ESE from the low point close S of the entrance to the Vellar River. A detached 5.5m patch lies about 1 mile SE of the outer end of the spit.

A heavy swell generally runs over the spit and it should not be approached from the E within a depth of 11m.

Large vessels should use Pedro Channel and West Channel. The least depth in the fairway of West Channel is 10.1m.

Vessels intending to enter through South Channel should make for a position about 12.5 miles N of **Tondaimanar** (9˚49'N., 80˚08'E.); when the lagoon entrance close W of the village can be distinguished, it should be steered for bearing 185˚ until depths increase to 11m. Then alter course W towards the entrance to West Channel, keeping in depths of 11 to 12.8m.

At the E entrance to West Channel, with Kovilan Light bearing about 158˚ and the obelisk on the N end of **Analativu** (9˚41'N., 79˚47'E.) bearing about 207˚, a course of 281˚ should be made good through West Channel, exercising great care, by keeping in the middle of the fairway to avoid the bank off Matakal and the shoals extending NW of Karaitivu.

Vessels intending to enter Palk Strait through North Channel should sound continuously, and if coming from the SE, should not get into depths of less than 14.6m until Point Calimere can be distinguished.

**Caution.—**Many fish traps are laid off the N coast of Sri Lanka and constitute a danger to powered vessels, especially at night, due to the large blocks of wood and strong moorings attached to them.

## Palk Bay

**4.55** **Palk Bay** (9˚30'N., 79˚30'E.), the continuation S of Palk Strait, is bounded on the E by the coast of Sri Lanka, on

the S by Mannar Island, Adam's Bridge, and Pamban Island, and on the W by the coast of India.

The bay has general depths of 11 to 12.8m, but on its E side depths of 9.1m and less extend up to 15 miles from the coast of Sri Lanka, and within it are several islands, rocks, and shoals. On the S side of the bay depths of less than 9.1m extend up to 7 miles from the coast. The NW part of the bay has not been fully surveyed.

## Palk Bay—East Side

**4.56** A flat, with depths of less than 5.5m, extends about 10 miles W of the W end of Jaffna Peninsula; several islands and shoals lie on this flat, and enclose a large basin with depths of 2.3 to 3.2m.

**Karaitivu** (9˚44'N., 79˚53'E.), the northernmost of the islands, was previously described in paragraph 4.53.

Eluvativu, about 2.5 miles WSW of the S end of Karaitivu, is low and covered with tall trees.

Analativu, about 1.5 miles SW of Eluvativu, is covered with tall trees; a white obelisk, 26.8m high, is conspicuous at its N end.

Nayinativu, 1.5 miles S of Analativu, also has tall trees on it; there is a conspicuous small temple, with a red roof, near the SW end of the island.

Punkudutivu, separated from Nayinativu by a channel about 1 mile wide, is planted with some coconut palms. Punkudutivu Light is shown from a conspicuous stone building near the SE end of the island.

Velanai, NE of Punkudutivu, is the largest island of the group. Mandaitivu, separated from Velanai by a narrow channel, is marshy in its N end, but there are some coconut palms on its S end.

**Kayts** (9˚42'N., 79˚51'E.) is a small port on the N end of Velanai, near the middle of the S side the channel separating Velanai and Karaitivu. The port is open throughout the year, but is most frequented during the Southwest Monsoon.

Fort Hammenhiel, the quarantine station, lies about 0.3 mile SW of the SW extremity of Karaitivu. A light is shown from a structure on the fort.

Anchorage may be obtained, in 7.3m, sand, with the N point of Eluvativu bearing 135˚, distant 1 mile. Small local vessels anchor in about 3.7 to 5.5m, from 1.5 to 3 miles NW of Fort Hammenhiel, and discharge part of their cargo before entering port.

**4.57** **Delft Island** (9˚31'N., 79˚41'E.) is separated from Nayinativu by Delft Channel. Tall palm trees are on the W and NE parts of the island, while the S part is grassland, divided by loose stone walls, with trees about 6.1m high. When seen from some distance N, the island appears as two islands, due to a shallow salt water lake which occupies the middle of the island.

A white, iron framework beacon, 16.1m high and surmounted by a white disc, marks the NW extremity of Delft Island. A light for the use of fishermen is shown from the NE extremity of the island. A beacon, consisting of a white brick tower with an elevation of 14.6m, marks the SE extremity of the island.

Temporary anchorage, during strong NE winds, may be obtained off the W side of Delft Island, with the S end of the high palms bearing 067˚.

The fairway of Delft Channel has a least depth of 9.1m over a width of about 1.5 miles between the 10m curve lines off Nayinativu and the NE extremity of Delft Island; a depth of 9.1m can be carried over the N end of the shoal bank which extends NNE from Delft Island.

Neduntivu Shoal, with a least depth of 3.7m, lies on the W side of the channel, and extends from 0.5 mile to 2.5 miles NNW from the NE extremity of Delft Island.

On the E side of the channel, a narrow detached shoal ridge of sand and coral, with depths of 4.9 to 5.5m, lies about 0.6 mile off and nearly parallel with the W side of Nayinativu.

Kakerativu (Kakeraitivu), about 9.8 miles ESE of Delft Island, is a sandy islet, 4.6m high and covered with scrub. A conspicuous white framework beacon, 16.1m high and surmounted by a white disc, stands on the SW side of the island.

Palaitivu, 8 miles ENE of Kakerativu, is mostly covered with coarse grass and scrub, up to 6.1m high. A white tower, 7.6m high, stands near the NE end of the island.

A rocky shoal, with a least depth of 1.2m, lies about 4 miles NW of Palaitivu.

Jaffna Lagoon, a large, shallow expanse of water, is entered between **Kalmunai Point** (9˚36'N., 80˚03'E.) and Mandaitivu, about 3 miles W. A white tower, 7.6m high, stands on Kalmunai Point.

A light is shown from Jaffna Obelisk, a white concrete tower about 2 miles NW of Kalmunai Point.

**Jaffna** (9˚39'N., 80˚01'E.), the principal town of the Jaffna Peninsula, lies on the N shore of Jaffna Lagoon, about 4 miles NW of Kalmunai Point.

A radio mast, 21.3m high and marked by a red obstruction light, stands in Jaffna, about 2.3 miles NW of Jaffna Obelisk.

The Northeast Monsoon prevails at Jaffna from the end of November to February; the Southwest Monsoon blows from the middle of May to October. The prevailing winds are SE during March and the first half of April.

**Irnativu North** (9˚17'N., 79˚59'E.) and Irnativu South are two low, coral islands, separated by a canoe passage. Irnativu North, the W island, has a village lying among palms in its N part; a tower, with an elevation of 16.1m, stands near the NE end of the island.

## Palk Bay—South Side

**4.58** **Talaimannar** (9˚06'N., 79˚43'E.), near the W end of Mannar Island, is connected to the railway system of Sri Lanka. A pier extends about 264m N of the coast at Talaimannar; the pier support a double railway track, and has depths of 3m at its head. There is regular ferry service between Talaimannar and Dhanushkodi, about 19 miles WNW.

Mannar Island Light is shown from a conspicuous, white, concrete tower at the root of the pier.

Pamban Island and Adam's Bridge have been previously described in paragraph 4.11; Mannar Island has been previously described in paragraph 4.12.

**Dhanushkodi** (9˚11'N., 79˚25'E.) (World Port Index No. 49340), about 2 miles NW of Lands End, is connected to the railway system of India. A pier, for use by vessels of the ferry

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service between Dhanushkodi and Talaimannar, extends from the NE coast of Pamban Island abreast the town. The pier is 219m long, with depths of 3.4m on each side of the pier head; the pier carries a double railway track.

**Kachchaitivu** (Kachchtivu) (9˚23'N., 79˚25'E.), about 10 miles SW of Delft Island, is 12m high and covered with scrub. There is a well and a small shrine on the NE side of the island. Depths of less than 9.1m extend 1 mile SE of the island.

Depths of less than 5.5m extend about 2.5 mile NE from the broad peninsula extending N from Pamban Island.

**4.59** **Pamban** (9˚17'N., 79˚13'E.) (World Port Index No. 49330), administered by a conservator, lies close N of the W extremity of Pamban Island. Cargo is handled by lighters to and from the beach.

South and SW winds prevail from April to October. Pamban Light is shown from a conspicuous white tower on a sandhill on the NW point of Pamban Island. NE Beacon, 5.5m high and white, lies close N of the light.

Kanthe Thuki Reef, composed of partly drying coral heads, lies between 0.3 and 0.5 mile W of Pamban Island Light. A boat channel between this reef and the coast is used by pilots when boarding vessels during the Northeast Monsoon.

Outer Fairway Buoy, painted in black and white checkers, is moored in the N approach to Pamban Pass, about 0.3 mile NW of Kanthe Thuki Reef, and about 0.7 mile WNW of Pamban Island Light.

Anchorage may be obtained, in 6.7m, mud, good holding ground, with Pamban Island Light bearing between 122˚ and 134˚, distant 1 mile.

Good anchorage may be obtained, in 10m, mud, with Pamban Island Light bearing 135˚, distant about 3.3 miles.

Pamban Pass was previously described in paragraph 4.9. The channel N of the rolling lift-bridge over Pamban Pass is marked by buoys and beacons.

The coast from **Ramen Point** (9˚17'N., 79˚11'E.) to Devipattanam, about 21 miles NW, is generally low and level.

Kathu Vallimuni Reef, consisting of scattered coral heads, extends up to 0.5 mile offshore, and lies parallel with the coast for about 1.8 miles W of Ramen Point. There are several heads, which dry 0.6m, at the E end of the reef.

Vella Pertumuni Reef extends about 3 miles W of Kathu Vallimuni Reef, from which it is separated by a boat channel.

A water tower, 17.7m high, consisting of a red square tank on a framework structure, is conspicuous about 3 miles W of Ramen Point.

The town of Attangarai lies on the NW side of the entrance of a river, about midway along this stretch of coast. A detached 6.9m patch lies about 7.5 miles NE of the river entrance.

## Palk Bay—West Side

**4.60** The W shore of Palk Bay between the low point S of the **Vellar River** (10˚04'N., 79˚14'E.) and Devipattana, about 40 miles SW, is generally low and level. Depths of 5.5m and less extend from 3 to 5 miles off this coast.

Pasipattanam Mosque stands on the coast, about 17.5 miles SW of the above low point.

**Tondi** (9˚45'N., 79˚01'E.), about 5 miles farther SW, is a small port for local coasting craft. Two white masonry beacons, 4.5m high, mark the port limits.

Anchorage may obtained, in 8.2m, mud, with Tondi Light bearing 295˚, distant 5 miles, but this position is exposed to all but offshore winds. Small vessels anchor nearer the town in about 4.9m, stiff mud.

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